



Annual Report

Agricultural Research Council

2024/25

Signed by:TEBOGO GILBERT SETHIBE
Signed at:2025-10-13 02:23:43 +02:00
Reason:I approve this document

T.G.





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GENERAL INFORMATION





1. GENERAL INFORMATION

REGISTERED NAME:	Agricultural Research Council
REGISTRATION NUMBER:	Agricultural Research Act 86 of 1990 (as amended)
PHYSICAL ADDRESS:	1134 Park Street, Hatfield, 0083
POSTAL ADDRESS:	PO Box 8783, Pretoria, 0001
TELEPHONE NUMBER:	+27 12 427 9700
FAX NUMBER:	+27 12 430 5814
EMAIL ADDRESS:	enquiry@arc.agric.za
WEBSITE ADDRESS:	www.arc.agric.za
EXTERNAL AUDITORS:	Auditor-General of South Africa
BANKERS:	Standard Bank
COMPANY SECRETARY:	Ms Nosipo Matanzima

2. LIST OF ACRONYMS

AfOHNet	Africa One Health Network
AGSA	Auditor-General South Africa
AHS	African Horse Sickness
AP	Animal Production
APP	Annual Performance Plan
BTP	Biotechnology Platform
CEO	Chief Executive Officer
CERMC	Corporate Enterprise Risk Management Committee
CoT	City of Tshwane
DALRRD	Department of Agriculture, Land Reform, and Rural Development
DFFE	Department of Forestry, Fisheries and the Environment
DMPE	Department of Planning, Monitoring and Evaluation
DSI	Department of Science and Innovation
EACS	Electronic Access Control System
EVMS	Electronic Visitor Management System
FAO	Food and Agriculture Organisation
FMD	Foot-and-Mouth Disease
GC	Grain Crops
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GMO	Genetically Modified Organisms
GMP	Good Manufacturing Practice
ICT	Information and Communication Technology
INF-NVB	Deciduous Fruit, Vines and Wine
INTERGIS	Integrated Registration and Genetic Information System

KyD	Kaonafatso ya Dikgomo
NIAID	National Institute of Allergy and Infectious Diseases
NPGA	National Public Goods Assets
NRE	Natural Resources and Engineering (Soil, Climate and Water and Agricultural Engineering)
NT	National Treasury
OVR	Onderstepoort Veterinary Research
PBR	Plant Breeders Rights
PFMA	Public Financial Management Act
PHP	Plant Health and Protection
R&D	Research and Development
RI	Research Infrastructure
SADC	Southern African Development Community
SARIR	South African Research Infrastructure Roadmap
SDP	Site Development Plan
SHAD	Smallholder Agricultural Development
SMMEs	Small, Medium and Micro Enterprises
SNP	Single Nucleotide Polymorphism
SG	Small Grain
SPCA	Prevention of Cruelty to Animals
STDF	Standards and Trade Development Facility
TSC	Tropical and Subtropical Crops
URS	User Requirement Schedule
VIMP	Vegetables, Industrial and Medicinal Plants (Vegetable and Ornamental Plants and Industrial Crops)
WOAH	World Organisation for Animal Health

3. ARC 2024/25 COUNCIL MEMBERS



Ms Joyene Isaacs
Chairperson



Dr Konanani Liphadzi
Deputy Chairperson



Dr Litha Magingxa
President and CEO



Dr Poncho Mokaila



Mr Goodman Gcaba



Prof Naude Malan



Mr Neo Masithela



Ms Clarinda Simpson



Dr Hilke Maartens



Dr Troy Govender



Dr Johny Tshipa



Dr Owen Horwood

4. ARC 2024/25 EXECUTIVE MANAGEMENT



Dr Litha Magingxa
President and CEO



Mr Abdul Carim
Chief Financial Officer



Dr Tebogo Sethibe
Acting Group Executive:
Operations



Dr Petronella Chaminuka
Acting Executive Manager: Research
Support and Coordination



Dr Andrew Magadlela
Executive Manager:
Animals and Biotechnology



Dr Yolisa Pakela-Jezile
Acting Executive Manager:
Crop Sciences



Ms Tshililo Mabirimisa
Acting Executive Manager:
Corporate Support



5. FOREWORD BY THE CHAIRPERSON

“Perfection is not attainable, but if we chase perfection, we can catch excellence.” - Vince Lombardi. The Agricultural Research Council (ARC) has achieved an unqualified audit report, after eight (8) years. This achievement has set the tone for striving to do better at management and Council levels.

The ARC also delivered outstanding research and technology options. The challenges for the organisation remain, however, and have proven to be systemic in nature. The Council has realised that a concerted effort and commitment from both the management and staff as well as the shareholder and stakeholders will be required to address these challenges. The changes required are not parallel processes but an inter-disciplinary, interconnected, and complex web of fundamental shifts.

The organisation delivered a strong overall performance in 2024/2025, achieving 81% of its annual targets. Outcomes 1 and 2 reached full achievement at 100%, while Outcomes 3, 4 and 5 each surpassed the 80% mark. The signing of the SLA with DALRRD had a significant positive impact, contributing to the improved annual performance.

Good progress was made in implementing the 2021/2022 institutional review recommendations, with particular emphasis on the establishment of Centres of Excellence. The organisation showed commendable efforts in prioritising women, youth and persons with disabilities. A key example is the increased participation of women and youth in the stud breeding sector, which has traditionally been dominated by older male farmers.

The ARC's continued focus on skills development remains essential to enhancing the competitiveness of the agricultural sector. Its contributions to climate-smart production practices and capacity building are critical to mitigating the impacts of climate change.

An increased focus on postharvest technologies and agro-processing remains essential for enhancing food quality, safety and market competitiveness. A notable advancement was made through the development of a new controlled atmosphere solution - Rodney Hart Services - specifically designed for apples, improving their quality retention, and enhancing their suitability for export logistics.

The organisation's world-class veterinary research continues to play a vital role, particularly in the development and enhancement of diagnostic and analytical services. Special attention has been given to the management and control of Foot and Mouth Disease (FMD).

The performance information report received an unqualified audit opinion, maintaining a positive trend over several consecutive years.

We are immensely proud of the nearly 50 employees who earned their postgraduate degrees during the year under review, an outstanding achievement, and a testament to the organisation's culture of excellence. Well done to each of them.

The focus was on the long-term strategy of attracting, recruiting, training, development and retaining employees as valuable assets that contribute to the organisational goals. The efforts resonated into the development of key Human Capital Management policies as intervention instruments, labour relation harmony, pre-eminence of employee wellness for healthier work- life balance that enhances productivity.

Great strides were achieved on employment equity while inadvertently disability target is still a challenge to resolve. ARC is amongst the Top Employers for the third consecutive years as a participant that strives to achieve learning and growth, incorporating best practices and systems into organisational performance culture, while ensuring a credible employee

performance recognition. A new organisational design has been set afoot in shaping the new structure that is fit for the purpose, which defines roles, processes and systems that are aligned to strategy. The top level structure has been successfully concluded.

For the past seven years, the ARC experienced a cycle of qualified audits, rooted in legacy systems, incomplete governance processes, and recurring audit findings around the fixed asset register. While governance stability was maintained, these weaknesses hindered governance maturity and eroded stakeholder confidence.

The 2024/25 financial year marked a decisive pivot. With management's full support, the Audit and Risk Committee (ARCo) elevated governance assurance to a strategic priority. Three (3) actions defined this turnaround: **Audit Improvement Plan** – implemented with interim audit reviews to ensure sustained progress and early detection of gaps, **Modernisation of Systems** – new software installed to address long-standing asset management weaknesses and **Strengthen Governance Alignment** – improved coordination between ARCo, management, internal audit, and the AGSA to ensure shared accountability.

This year's approach was less about compliance and more about **governance integrity**. The ARC deliberately shifted from managing recurring audit findings to building a culture of accountability, strengthened controls, and risk-based oversight.

The financial year 2024/25 was a turning point. The ARC has shifted from firefighting recurring audit issues to building **sustainable governance integrity**. The foundations for audit turnaround and governance maturity have been laid, and enhanced oversight will be pivotal in sustaining this progress.

The Social, Ethics and Governance (SEG) committee noted significantly improved reporting from management. Focus was on the implementation of Occupational Health and Safety Performance and the need for spending by management on Occupational Health and Safety. The challenges experienced by management were noted and the committee will continue to exercise oversight and give support to ensure compliance.

The Committee noted a decline in legal cases, and these were well managed. The Ethics and Compliance Management Reports were presented to Council for approval with increased compliance by management. The committee also provided oversight regarding the reports on Whistle-blower allegations and Irregular Expenditure. All submissions to the Whistle-blower hotline were interrogated. We appreciate the use of this hotline, and we encourage staff to use it.

The report on the Science Programme on Climate Change was received and this initiative will stand the ARC in good stead, as it will unlock further funding and research opportunities. The Climate Change Dashboard is a welcome intervention as it enables the ARC to understand, track and manage its impact on climate. We are heartened that the ARC is prepared to do its part to mitigate climate change.

This Committee noted the reports on Research Support and Coordination and the increased coordination with stakeholders and the development of new-generation research projects. We welcome these as this will contribute to realising the new organisational plan for the next five (5) years for the ARC.

I would like to thank the President and CEO, Dr Litha Magingxa, for steering the organisation, and making hard choices to ensure that the ARC remains relevant. He and the management team have delivered on the research and services, and the Council appreciates this tremendously.

It would be remiss of Council not to thank the staff of the ARC as it is their hard work that has resulted in significant results and outputs. To all the stakeholders who maintained a working relationship with the ARC, thank you. We as Council appreciate your commitment and invite you to continue working with us, for the ARC, with the ARC for the agricultural sector.



Ms Joyene Isaacs

Date : 30 September 2025

Chairperson of the ARC Council



6. CHIEF EXECUTIVE OFFICER'S OVERVIEW

On behalf of the Executive and Senior Management of the Agricultural Research Council (ARC), I present this Annual Report for the financial year ending 31 March 2025. Through the ARC Council, we submit this report with associated performance information and audited financial statements to the Executive Authority and Minister of Agriculture, the Honourable John Steenhuisen, and all ARC stakeholders.

The ARC's organisational renewal and turnaround initiatives, which commenced in 2022, have resulted in an unqualified audit opinion, the first since the 2015/16 period, and an overall performance exceeding 87% against established indicators. This achievement reflects the dedication of ARC staff, the guidance provided by the Council's leadership, and ongoing support from the Department of Agriculture.

The ARC's statutory mandate, as defined by the Agricultural Research Act and the Public Finance Management Act (PFMA), is to deliver essential agricultural research, innovation, and development to ensure a sustainable, productive, and equitable agricultural sector in South Africa. As a Schedule 3A Public Entity, the ARC's core functions of research, development, and technology transfer are guided by statutory requirements. The ARC Council provides strategic leadership and oversight through robust governance structures, risk management, and compliance protocols. In the 2024/25 financial year, the ARC fulfilled its mandated deliverables and presents this report as evidence of its achievements.

In 2024/25, the final year of the ARC's Strategic Plan (2020–2025), and in support of the long-term Vision 2050, the ARC continued to advance its mission which remains to conduct cutting-edge research, foster strategic partnerships, and develop human capital to promote innovation for a sustainable agriculture sector. Our goals remain firmly aligned to national policy frameworks including the NDP 2030, the Agriculture and Agro-processing Master Plan (AAMP), Food and Nutrition Security policies, and global imperatives for sustainable development and food systems transformation.

In 2024/25 ARC maintained its positioning as South Africa's premier agricultural research institution in delivering scientific solutions for a resilient, competitive, and inclusive agricultural economy. This included delivery under the following focus areas, as described in the report: Genetic improvement of crops and livestock to enhance productivity and climate resilience.

1. Anticipation and mitigation of risks, building resilience against climate change and biosecurity threats.
2. Promotion of ecosystem sustainability for effective conservation of natural resources.
3. Development of innovative post-harvest solutions and loss-reduction products that add value.
4. Inclusive market-oriented agricultural development that address malnutrition and foster economic empowerment.

The ARC continues to drive food security, competitiveness, and sustainability through scientific innovation, despite challenges such as climate variability, pests, diseases, and economic pressures. Outbreaks of Foot and Mouth Disease (FMD) and Avian Influenza highlighted the ARC's vital role in biosecurity, climate-smart technologies, and diagnostic services. Progress has been made in restoring South Africa's FMD vaccine production, through vaccine registration, expert recruitment, and scaled-up production plans although funding delays threaten full implementation. Installation of the mid-scale production capability is underway, with full pentavalent vaccine production targeted for March 2026. Restoring local vaccine production capacity is critical to protecting livestock, maintaining FMD-free status, securing trade, and preventing major economic losses.

During the year, ARC renewal continued, focussing on revitalising partnerships with farmers, agro-industry and government. The strengthened relationship with the Department of Agriculture (DoA), through the overarching

Service Level Agreement (SLA) was further enhanced, and now entails more than 250 projects, implemented by the ARC for the benefit of the sector. The projects are based on jointly agreed priority technology development needs, in support of the AAMP. Additionally, continued support from the Department of Science and Innovation (DSI) as well as the Department of Forestry, Fisheries and the Environment (DFFE) and the Department of Trade Industry and Competition (DTIC) is appreciated, and we value these partnerships. Collaboration with Provincial Departments, other science partners, and industry bodies to generate knowledge and develop innovative technologies is delivering substantial impact for the sector and contributing positively to the broader economy.

Over the year, ARC substantially advanced the development, evaluation, and release of climate-resilient and high-performing cultivars across major and underutilised crop groups, including wheat, maize, legumes, sweet potato, and hemp. Pre-breeding and cultivar evaluation programmes at our grain crops campuses supported food security and industry competitiveness, while the horticultural campuses expanded fruit, vegetable, and indigenous crop innovation. For the first time, ARC achieved Plant Breeder's Rights registration for two hemp varieties, marking a national milestone.

The Animal Production and Veterinary Research campuses continued to play a critical role in advancing livestock production, animal health, and One Health initiatives. Through the Kaonafatso Ya Dikgomo (KyD) scheme, nearly 7,000 smallholder farmers were supported, while diagnostic and breeding services were provided to strengthen the national herd. The campuses also played pivotal roles in foot-and-mouth disease (FMD) surveillance, vaccine research and development, and the implementation of One Health strategies. The ARC-OVR maintained its status as a WOA and FAO Reference Laboratory, hosted regional training for continental partners, and expanded training and technology transfer initiatives through international twinning agreements.

In parallel, the Plant Health and Protection campus reinforced national biosafety and biosecurity measures, protecting South Africa from emerging agricultural threats. This included a rapid response to the detection of Goss's Wilt in maize and leadership in the biocontrol of famine weed and yellow bells. Furthermore, national biological collections continued to underpin the ARC's ability to respond to zoonoses, invasive species, and emerging pests, cementing its leadership as custodian of vital public-good assets.

In terms of technology transfer and advisory services, the ARC's extension, advisory, analytical, and diagnostic services reached thousands of farmers, extension officers, and agri-service providers through flagship platforms,

mobile diagnostic clinics, and capacity development initiatives. Innovative digital solutions, such as mobile pest and disease identification apps and the Integrated Registration and Genetic Information System (INTERGIS), provided stakeholders with real-time, actionable insights. The organisation also played a significant role in knowledge dissemination and skills development, with staff and student training outputs exceeding targets across ARC campuses. The highly successful Professional Development Programme (PDP) expanded its enrolment to 184 participants, with notable increases in the participation of women and youth. Women now constitute nearly 49% of ARC's workforce and 72% of postgraduate trainees. ARC scientists produced more than 350 peer-reviewed articles, generated extensive coverage in popular media, and hosted over 200 public awareness events. Collectively, these activities contributed to the commendable achievement of 91% of Research and Development (R&D) targets.

Despite a constrained fiscal environment, the ARC continued to implement its Financial Sustainability and Turnaround Plan, strengthening external revenue streams through government SLAs, licensing, and innovative asset use. Facilities management was enhanced, with national contracts improving efficiency and property optimisation initiatives boosting income. Key investments included solar upgrades, fleet replacements, as well as new laboratory and research technologies. Notably, the ERP-Labware integration improved quality and efficiency of financial and laboratory operations, driving organisational innovation. Digital transformation deepened via deployment of new contract management, direct hire, and e-learning systems, supporting fast and quality recruitment, contract compliance, and access to critical apps for farmers. Mobile solutions, including disease and crop apps, extended the ARC's reach to even the most marginalised client groups.

In terms of Governance, Risk, Compliance, and Ethics, robust anti-fraud, whistleblowing, and risk management frameworks underpin the ARC's commitment to transparency, ethical conduct, and compliance with all relevant laws and policies. Awareness campaigns, updated codes, and annual training strengthened a culture of responsibility and integrity across all divisions. An improving overall 3.04% staff turnover rate indicates organisational stability as well as ability to maintain sound labour relations and ensure employment equity and staff development. Ongoing efforts improved disability declaration and inclusivity, and the staff vacancy rate was managed at 11.95%. Three successive Top Employer certifications underscore our people-centric culture and dedicated excellence in people management.

Strategic Partnerships and Internationalisation remain a priority. During 2024/25 the organisation formalised partnerships with the Chinese Academy of Agricultural Sciences (CAAS) and Algeria's National Institute of Agricultural

PART A: GENERAL INFORMATION

Research (INRAA). In line with the recommendations of the 2022 Institutional Review, global engagements continued at the highest level, including the Science Summit at the UN General Assembly and in Europe-Africa agricultural research consortia which all raised the ARC's scientific and policy influence, furthering South Africa's leadership in the global agri-research community. In February 2025, the Minister of Agriculture formally requested the ARC to host the Meeting of Agriculture Chief Scientists (G20-MACS), a key event under South Africa's G20 agriculture stream. Key activities in Q4 in preparation for the G20-MACS included identification of thematic priorities to inform the draft Communique, continent wide consultation processes and convening a national G20-Agriculture SHERPA dialogue in collaboration with the Department of Agriculture and the Food, Agriculture, Natural Resources Policy Analysis Network (FANRPAN).

Looking forward, the ARC, guided by strong governance and stakeholder partnerships, is entering a new strategic phase focused on consolidating digital transformation and operational excellence. Key priorities include accelerating the establishment of Centres of Excellence in areas that include Climate-Smart Agriculture, Seed Systems, Biosecurity and Agro-processing. As the organisation strengthens its leadership in Africa's science, technology, and policy agenda for sustainable agriculture, the organisational transformation journey continues. In that

regard, the ARC is advancing its Financial Sustainability and Turnaround Plan, championing gender equity and inclusion and accelerating digitisation of its systems.

My gratitude extends to the Minister of Agriculture, our Council, governmental and international partners, collaborators across campuses and divisions, industry stakeholders, and, most critically, the dedicated staff, scientists, students, as well as the communities we serve. The progress and resilience exhibited in 2024/25 reinforce our collective ability to overcome adversity and seize the many opportunities that lie ahead. As we move into our next strategic phase and celebrate three decades of democracy, the ARC remains steadfast in its commitment to scientific and social impact, working with partners to secure a sustainable, secure, and flourishing agricultural future for all.



Dr Litha Magingxa

Date : 30 September 2025

ARC President and CEO





7. STATEMENT OF RESPONSIBILITY AND CONFIRMATION OF ACCURACY FOR THE ANNUAL REPORT

To the best of my knowledge and belief, I confirm the following:

- All information and amounts disclosed in the Annual Report are consistent with the Annual Financial Statements audited by the Auditor-General;
- The Annual Report is complete, accurate and free from any omissions;
- The Annual Report has been prepared in accordance with the guidelines for the Annual Report as issued by the National Treasury and Department of Planning, Monitoring and Evaluation (DPME);
- The Annual Financial Statements (Part E) have been prepared in accordance with the Public Finance Management Act, 1999 (Act No.1 of 1999) (PFMA) standards applicable to the public entity;
- The accounting authority is responsible for the preparation of the Annual Financial Statements and for the judgements made in this information.
- The accounting authority is responsible for establishing and implementing a system of internal control that has been designed to provide reasonable assurance as to the integrity and reliability of the performance information, the Human Resources information and the Annual Financial Statements; and
- The external auditors are engaged to express an independent opinion on the Annual Financial Statements.

In our opinion, the Annual Report fairly reflects the operations, the performance information, the Human Resources information, and the financial affairs of the public entity for the financial year ended 31 March 2025.

Yours faithfully,

Dr Litha Magingxa

Date : 30 September 2025

ARC President and CEO

Ms Joyene Isaacs

Date : 30 September 2025

Chairperson of the ARC Council

8. STRATEGIC OVERVIEW

8.1 VISION

Excellence in research and innovation for sustainable agricultural systems and economic development.

8.2 MISSION

The ARC is a premier science institution that conducts research, develops partnerships and human capital to foster innovation for a sustainable agriculture sector.

8.3 VALUES

I CAIRE

I – INTEGRITY:

We conduct our business in a transparent, honest, truthful, consistent, and ethical manner to ensure we foster trust among our employees and stakeholders.

C - COMMITMENT:

We commit ourselves to live the values of the ARC.

A – ACCOUNTABILITY:

We honour our commitments towards our employees and stakeholders in a responsible and reliable manner, taking ownership of our work and decisions.

I – INNOVATION:

We conduct our business in a way that fosters innovation to improve the growth of the organisation and the agricultural sector.

R – RESPECT:

We treat our colleagues and stakeholders with respect and dignity in an equitable manner whilst embracing diversity.

E – EXCELLENCE:

We conduct our work in an efficient, effective, professional manner to ensure we create highest quality and value.

9. LEGISLATIVE AND OTHER MANDATES

The ARC was established as a Public Entity on 1 December 1990, under the then Ministry of Agriculture (now reconfigured as the Ministry of Agriculture, Land Reform and Rural Development).

- The ARC is listed as a Schedule 3A Public Entity in terms of the PFMA (No.1 of 1999) and is required to ensure full compliance with all prescripts and regulations arising from the PFMA.

Specifically, the ARC was established in terms of the Agricultural Research Act (No. 86 of 1990), from which it derives its core mandate. The objectives of the ARC outlined in the Act are to conduct research, drive R&D, drive technology development and transfer (dissemination) information, in order to:

- » promote agriculture and industry.
- » contribute to better quality of life;
- » facilitate/ensure natural resource conservation; and
- » alleviate poverty.

The Act defines:

- *Research* as the furtherance, accumulation and improvement of knowledge in the agricultural and related sciences through original and other investigations and methods of a scientific nature with the advancement of agriculture as its object;
- *Technology Development* as activities by which knowledge acquired through research is utilised; and
- *Technology Transfer* as transfer of knowledge, techniques and processes for application thereof.
- Further, the Act states that in order to achieve its objectives, the ARC may:
- undertake and promote research, development and technology transfer in connection with:
 - » the optimal utilisation of the agricultural resources and the improvement of the production capacity of such resources;
 - » the rehabilitation and improvement of the agricultural resources;
 - » the opening of possibilities and the generation of new knowledge to solve particular problems;
 - » the improvement of the nutritional value and quality of agricultural products;

- » the pollution of the environment and the prevention thereof in respect of agriculture; and
- » the improvement of existing techniques and the creation of new techniques for the processing of agricultural products, and to improve the keeping quality of perishable agricultural products;

- utilise the technological expertise in its possession and make it generally available;
- publish information concerning its objectives and functions, and establish facilities for the collection and dissemination
- of information in connection with R&D;
- establish and control facilities in those fields of research, development and technology transfer which the Council may from time to time determine;
- promote cooperation between the Republic and other countries with regard to research, development and technology
- transfer; and
- cooperate with persons, institutions and associations undertaking research, development and technology transfer in other countries.

The ARC performs its functions through several research campuses that are predominantly commodity-based and are strategically located throughout the country. Further, research at these facilities is complemented by on-field experimental sites distributed throughout every province of South Africa. In addition, selected farm fields are utilised to study the performance of ARC research technologies under actual farm production environments.

The Council of the ARC is the Accounting Authority in terms of the PFMA and provides strategic direction and leadership to enhance shareholder value and ensure the long-term sustainable development and growth of the Entity. In fulfilling its responsibilities, the Council is supported by the ARC President and CEO and the Executive and Senior Management team in implementing the approved strategic and corporate plans and policies. The ARC seeks to operate on sound business principles and practices, and to this end, strives at all times to comply with the principles contained in the King Code on Corporate Governance in South Africa (2016) (King IV) and other corporate governance guidelines and standards.

LEGISLATIVE MANDATE

In delivering on its core mandate, the ARC is responsible for performing its functions in line with the following key legislation, which thus directly informs the various day-to-day operations of the organisation:

LEGISLATION	OBJECTIVE OF THE ACT	ARC RESPONSIBILITY
Animal Disease Act, 1984, (Act No. 35 of 1984)	This Act provides for control measures for the prevention of diseases and parasites, and for schemes to promote animal health. The Directorate of Veterinary Quarantine and Human Health is responsible for the enforcement thereof.	No specific delegation in terms of the Act. However, the ARC provides various services (diagnostic and analytical) to fulfil the aims of the Act, also through OIE Reference Laboratories.
Agricultural Research Act, 1990 (Act 86 of 1990)	The act provides for the establishment of a juristic person to deal with agricultural research; to determine its objects, functions, powers and duties; to prescribe the way it is to be managed and governed; to regulate its employee matters and financial affairs; and to provide for matters connected therewith. The purpose is to promote agriculture and industry and thereby to contribute to the improvement of the quality of life of the people and having regard to the protection of the environment through research, development and technology transfer.	This is the ARC's founding legislation; it provides the ARC's mandate and all sections of the Act must be adhered to.
Animal Identification Act, 2002 (Act No. 6 of 2002)	Provide for the identification of animals and procedures to be followed when applying for an identification mark. The Directorates Animal Production and Veterinary Quarantine, and Human Health are responsible for the administration of this Act.	No delegation to ARC. However, certain aspects of animal identification are contained in the implementation of an Integrated Registration and Genetic Information System (INTERGIS). The INTERGIS is delegated to the ARC.
Animal Improvement Act, 1998 (Act No. 62 of 1998)	To provide for the breeding, identification, and utilisation of genetically superior animals in order to improve the production and performance of animals in the interest of the Republic. The Directorates Animal Production and Veterinary Quarantine, and Human Health are responsible for the administration of this Act.	Certain services that are discharged under this Act are managed by the ARC: • Animal improvement services, including collection of animal data, as well as management of National Databank (INTERGIS); • Section 20 of the Act on the establishment of the Schemes; and • Declaration of the Schemes Notice 29516 of 2007 Section 5(1)(a)(iii) - the Schemes shall ensure that all recorded data is submitted to the Integrated Registration and Genetic Information System (INTERGIS). Furthermore, Section 44 of the Declaration stipulates that: • The Schemes will be managed by the ARC, a statutory body established in terms of Section 2 of the Agricultural Research Act, 1990 (Act No. 86 of 1990);

LEGISLATION	OBJECTIVE OF THE ACT	ARC RESPONSIBILITY
Animal Improvement Act, 1998 (Act No. 62 of 1998)	To provide for the breeding, identification, and utilisation of genetically superior animals in order to improve the production and performance of animals in the interest of the Republic. The Directorates Animal Production and Veterinary Quarantine, and Human Health are responsible for the administration of this Act.	- The ARC will exercise the powers and perform duties conferred to it in terms of the Schemes; and - The ARC may make rules relating to the Schemes in consultation with the Department.
Agricultural Pests Act, 1983 (Act No. 36 of 1983)	This Act introduces measures for the prevention and combating of agricultural pests. The Directorate of Plant Health and Protection is responsible for the enforcement thereof.	ARC serves on the National Steering Committees to address specific pest problems. Responsibilities include: - Calibration of aircraft for control of migratory pests; and - Identification services and registered testing laboratories. The insect quarantine service is rendered through a contract with the DALRRD.
Animal Protection Act, 1962 (Act No. 71 of 1962)	This Act provides for the maintenance of proper standards of hygiene, and in the handling of animals and the prevention of cruelty to animals. The Society for the Prevention of Cruelty to Animals (SPCA) is responsible for the enforcement thereof. The Directorate Animal Production is responsible for the administration of this Act.	There is no delegation to ARC. However, the organisation must comply with the requirements of the Act.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	This Act provides for control over the utilisation of natural agricultural resources to promote the conservation of soil, water sources and vegetation, and the combating of weeds and invader plants. The Directorate of Land Use and Soil Management and the Engineering Directorate are responsible for the enforcement thereof.	No delegation. Certain aspects of the Act are contained within the mandate of the ARC.
Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947)	The registration of fertilisers, farm feeds, agricultural remedies, stock remedies, sterilising plants and pest control operators are regulated by this Act. Provision is also made for control over the acquisition, disposal, sale and use of fertilisers, farm feeds, agricultural remedies, and stock remedies. The Directorate Food Safety and Quality Assurance is responsible for the administration of this Act.	There is no specific delegation for the ARC. However, on assignment, the organisation conducts analytical, testing, and advisory services to enable regulatory decisions by DALRRD.
Intellectual Property (IP) Rights from Publicly funded R&D Act, 2008 (Act No. 51 of 2008)	Seeks to ensure that all publicly funded research gets IP protection for the purposes of commercialisation. It further places an onus on the ARC to establish an IP Management Office.	The ARC has established a functional IP Management Office, along with associated internal policies to ensure compliance to licensing agreements.

LEGISLATION	OBJECTIVE OF THE ACT	ARC RESPONSIBILITY
Genetically Modified (GM) Organisms Act, 1997 (Act No. 15 of 1997)	To provide measures to promote the responsible development, production, use and application of Genetically Modified Organisms (GMO); - To ensure that all activities involving the use of GMO (including importation, production, release and distribution) shall be carried out in such a way as to limit possible harmful consequences to the environment; - To give attention to the prevention of accidents and the effective management of waste; to establish common measures for the evaluation and reduction of the potential risks arising out of activities involving the use of GMO; - To lay down the necessary requirements and criteria for risk assessments; - To establish a Council for GMO; - To ensure that GMO are appropriate and do not present a hazard to the environment; and - To establish appropriate procedures for the notification of specific activities involving the use of GMO. The Directorate Biosafety is responsible for the administration of this Act.	No delegation to ARC. However, ARC expertise, facilities and scientific data/ information are utilised to support decision-making.
National Environmental Management Act, 1998 (Act No. 107 of 1998)	Provide for measures to prevent pollution and ecological degradation; - Promote conservation; and - Secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development. The Department of Forestry, Fisheries, and the Environment (DFFE) is responsible for the administration of the Act.	The organisation has duty to comply with the Act where listed activities are undertaken, ensuring that relevant authorisations are in place. Consideration is also placed on ensuring that the surrounding environment is always protected, not being negatively affected by any of the organisation's research activities. There is also the element of sustainable development which is greatly considered as part of the research performed within the organisation.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	To provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; - The protection of species and ecosystems that warrant national protection; - The sustainable use of indigenous biological resources; and - The fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources. The DFFE is responsible for the administration of the Act.	ARC supports by hosting of national collections and developing data used for conservation and management of natural resources. Baseline biodiversity data is essential for policy-makers regarding conservation and sustainable use of natural resources.

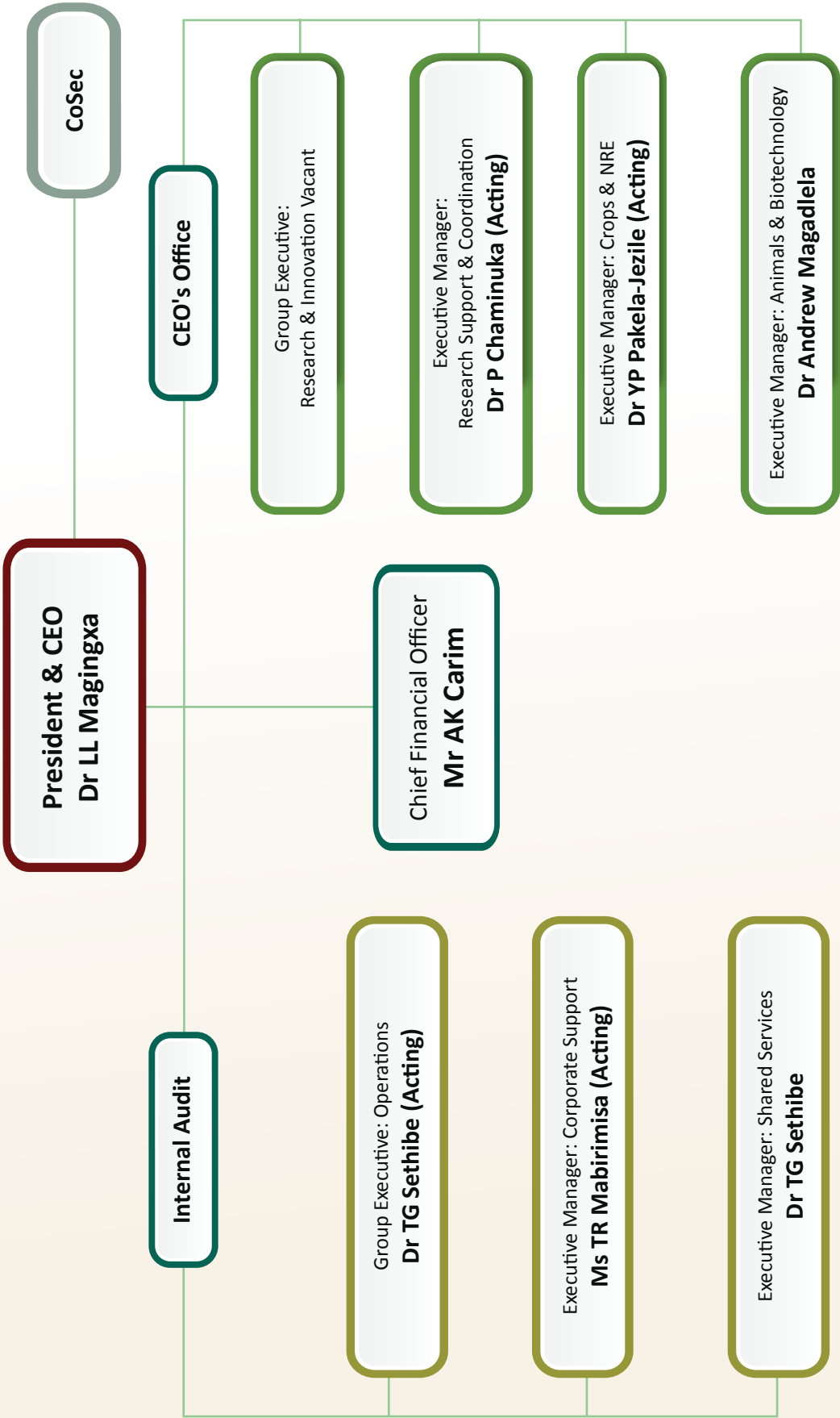
LEGISLATION	OBJECTIVE OF THE ACT	ARC RESPONSIBILITY
Plant Breeders' Rights Act, 2018 (Act No. 12 of 2018)	This Act regulates the granting of certain rights relating to the new varieties of certain kinds of plants, the protection of such rights and the issue of licences in respect of the exercising of the rights. The Directorate of Plant Production is responsible for the enforcement thereof.	The ARC provides services to the Registrar to enable evaluation of material for granting of PBR in recognition of new varieties. The ARC must comply with the requirements of the Act.
Plant Improvement Act, 2018 (Act No. 11 of 2018)	This Act provides for: - The registration of establishments where plants and propagation material are sold and packed; - The introduction of schemes for the certification of certain propagation material; - The requirements to which plants and propagation material sold for the purposes of cultivation must conform; and - Quality control (QC) over plants and propagation material imported or exported. The Directorate of Plant Production is responsible for the enforcement thereof.	Registered testing laboratories (nematology, mycology, virology, bacteriology - American Foulbrood Disease) provide diagnostic services to government in terms of seed/plant quality (free from pests and pathogens), as well as nurseries and other plant propagation material.
Public Finance Management Act, 1999 (Act No. 1 of 1999)	- To regulate financial management in the national government and provincial governments; - To ensure that all revenue, expenditure, assets, and liabilities of those governments are managed efficiently and effectively; and - To provide for the responsibilities of persons entrusted with financial management in those governments.	Adherence to all sections of the PFMA relevant to the ARC.
Protection of Personal Information Act, 2013 (Act No. 4 of 2013)	- To promote the protection of personal information processed by public and private bodies; - To introduce certain conditions so as to establish minimum requirements for the processing of personal information; - To promote the protection of personal information processed by public and private bodies; - To introduce certain conditions to establish minimum requirements for the processing of personal information;	Adherence to all sections of POPIA relevant to the ARC.

The above-mentioned legislation is not exhaustive, and it is recognised that the ARC is subject to, and must comply with, all national and provincial legislation and regulations, and all municipal by-laws, applicable to its functions or the areas in which it operates.

POLICY MANDATE

Whereas the above legislation and regulations define the scope of the mandate and regulate how the ARC must operate, various national policy and strategy frameworks give effect to how the mandate should be implemented and have direct bearing on the priorities and focus areas of the ARC for the 2020/21-2024/25 period of its Strategic Plan

10. ORGANISATIONAL STRUCTURE



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PERFORMANCE INFORMATION





PERFORMANCE INFORMATION

1. AUDITOR'S REPORT: PREDETERMINED OBJECTIVES

The AGSA currently performs the necessary audit procedures on the performance information to report material findings only; and not to express an assurance opinion or conclusion. The audit opinion on the performance against predetermined objectives is included in the management report, with material findings being reported under the Predetermined Objectives heading in the Report on other legal and regulatory requirements section of the auditor's report. Refer to page **284 - 293** of the Report of the Auditor-General, published as Part F: Financial Information.

2. SITUATION ANALYSIS

2.1 SERVICE DELIVERY ENVIRONMENT

The ARC continuously strives towards deriving optimal value from all resources (financial, human, infrastructure, natural etc.) available to conduct R&D as well as associated services towards fulfilment of its mandate.

2.2 ORGANISATIONAL ENVIRONMENT

This Annual Report serves as the fifth and final year of implementation of the approved five-year (2020 to 2025) Strategic Plan in pursuit of the ARC Vision 2050. Research focus areas serve as the organising framework towards the attainment of ARC Vision 2050 and are outlined as follows:

1. Genetic improvement of crops and livestock to enable increased productivity;
2. Anticipation and mitigation of agricultural risks to enable resilience to climate change;
3. Promotion of ecosystem sustainability to enable effective natural resources conservation;
4. Solutions, processes, and technologies to reduce post-harvest losses and develop new products; and
5. Inclusive market-oriented agricultural development to reduce malnutrition and hunger.

Performance was, in accordance with pre-determined outcomes, outlined as follows:

1. Increased agricultural production and productivity;
2. Sustainable ecosystems and natural resources;
3. Improved nutritional value, quality and safety of agricultural products;
4. Skilled and capable agriculture sector;
5. Enhanced resilience of agriculture; and
6. A high performing and sustainable organisation.

During the financial year, the ARC considered and conducted business cognisant of the challenges outlined above. Further, reduced financial resources during the year had the following impact on the organisation:

1. ARC scientists reduced their time conducting laboratory or field research, instead focused on data analyses, that resulted in high quality peer-reviewed scientific publications;
2. Reductions in field and laboratory research activities limited the outputs of technologies, resulting in reductions in the number of cultivars released or registered for PBR;
3. There was limited output in vaccine R&D;
4. In the same period, the ARC implemented a moratorium on filling of vacancies for unskilled personnel, and reprioritised recruitment of highly skilled scientists that are essential to fulfil its mandate; and
5. To ensure organisational viability, the ARC continued to implement the Financial Sustainability and Turnaround Plan to the extent possible.

2.3 KEY POLICY DEVELOPMENTS AND LEGISLATIVE CHANGES

During the financial year, the ARC has not been subject to policy changes to its mandate as stipulated in the approved five-year Strategic Plan. As a public entity, the ARC must comply with the constitution of the Republic of South Africa 1996, national and provincial legislation, municipal by-laws, and subordinate legislation applicable to the organisation's business.

2.4 STRATEGIC OUTCOMES

ARC OUTCOME	RESEARCH AND/OR DELIVERY OUTPUTS
1. Increased agricultural production and productivity	1) Generation of knowledge through research; 2) Development of new technologies; 3) Scientific services rendered; and 4) Information dissemination.
2. Sustainable ecosystems and natural resources	1) Generation of knowledge through research; 2) Development of new technologies; 3) Scientific services rendered; and 4) Information dissemination.
3. Improved nutritional value, quality and safety of agricultural products	1) Generation of knowledge through research; 2) Development of new technologies; 3) Scientific services rendered; and 4) Information dissemination.
4. A skilled and capable agriculture sector	1) Generation of knowledge through research; 2) Development of new technologies; 3) Scientific services rendered; and 4) Agriculture skills and capacity development; and 5) Agriculture R&D information communicated/ disseminated to stakeholders.
5. Enhanced resilience of agriculture	1) Generation of knowledge through research; 2) Technologies released to agriculture sector; 3) Scientific services rendered; 4) Information dissemination.
6. A high-performing and sustainable organisation	1) Improved post-graduate Sector Education Training (SET) base; 2) Improved staff profile; 3) Optimal investment in training and development; 4) Funding and revenue generation; 5) Applied Information technologies; and 6) Optimal utilisation of assets.

3. PERFORMANCE INFORMATION BY OUTCOME

3.1 OUTCOME 1: INCREASE AGRICULTURAL PRODUCTION AND PRODUCTIVITY

The focus of Outcome 1 is to generate knowledge and technologies (intellectual property and tools) that will diversify, improve the quality, and increase the value of crop and animal based agricultural production and related processes and products; enhance productivity towards increased food security, commercial exports, and income for the agricultural sector, and enabling farmers and producers to maximise their efficiency and productivity.

The Outcome focuses on improving the productivity, competitiveness, and sustainability of both commercial and smallholder agriculture through research and development in:

1. Crop research and development: including a wide range of grains, vegetables, indigenous ornamental plants, medicinal plants, deciduous fruit and grapes, tropical and subtropical fruits, and niche crops, such as herbal teas. Industrial crops research and development will focus on fibre crops, such as cotton and hemp.
2. Livestock-based agriculture: through research and technology in areas related to animal health, production, and improvement, as well as secondary production processes. The research and development are focused on both production and companion animals, and increasingly in the areas of aquaculture and wildlife.

Outcome 1 is the focus of the following ARC Divisions:

1. Crop Sciences; and
2. Animal Sciences.



OUTCOMES, OUTPUTS, OUTPUT INDICATORS, TARGETS AND ACTUAL ACHIEVEMENT

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY						
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025
Crop technologies developed and information dissemination	Number of cultivars registered	7	12	4	4	0
	Number of field trials	230	209	179	221	42
	Number of technical reports	316	203	181	190	9
	Number of cultivar evaluations	78	80	36	77	41
Animal improvement services	Number of farmers participating in each of the animal improvement schemes	191	193	160	196	36
	Number of technical reports	763	718	600	747	147
						Reasons for deviations
						Annual target met
						More trials planted than expected
						Additional reports resulting from consultations with stakeholders and additional services from DoA projects
						Received more cultivars for evaluation
						Aggressive marketing paid off after participation in our schemes had dropped in the few previous years.
						Aggressive marketing paid off after participation in our schemes had dropped in the few previous years.

SIGNIFICANT ACHIEVEMENTS OF TARGETS

ANIMAL IMPROVEMENT SERVICES:

The Animal Sciences division serviced 196 stud farmers through its animal improvement schemes which includes beef, dairy, and smallstock. The animal performance data provided through the schemes assisted farmers in selecting superior breeding stock which play an important role in improving the genetic quality of the national herds and flocks. Furthermore, these services are at the core of improving production and productivity in the livestock sector and consequently on ensuring national and household food and nutrition security as well as socio-economic development especially in rural areas where agriculture is the main economic driver. It is noteworthy that the animal improvement services rendered by the ARC are recognised by the International Committee for Animal Recording (ICAR) through its Certificate of Quality (CoQ) programme.

CROP TECHNOLOGIES DEVELOPED AND INFORMATION DISSEMINATION:

Targets set for horticulture research were met through hard work and resilience from our researchers, technicians and support colleagues and good communication between campuses and the IP office. SMART targeting was applied this financial year and resulted in improved performance. Likewise, the field trials and cultivar evaluations are precursors to attainment of data which allows us to evaluate the ability to register new cultivars.

PRIORITISATION OF WOMEN, YOUTH AND PERSONS WITH DISABILITIES

The animal improvement schemes made some inroads into enhancing participation of women and youth in the stud breeding sector which is predominately dominated by older male farmers. The proportion of women and youth stud breeders who received performance recording services through ARC national animal improvement schemes were 14% and 2%, respectively. While the participation of women and youth remain marginal, this is the step in right direction.

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

All performance targets were met/exceeded during the financial year.

LINKING PERFORMANCE WITH BUDGETS

OUTCOME	2024/2025			2023/2024		
	Budget R'000	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)	Budget (R'000)	Actual Expenditure R'000	(Over)/Under Expenditure R'000
Outcome 1	116 910	122 470	(5 560)	100 849	96 866	3 983
Total	116 910	122 470	(5 560)	100 849	96 866	3 983

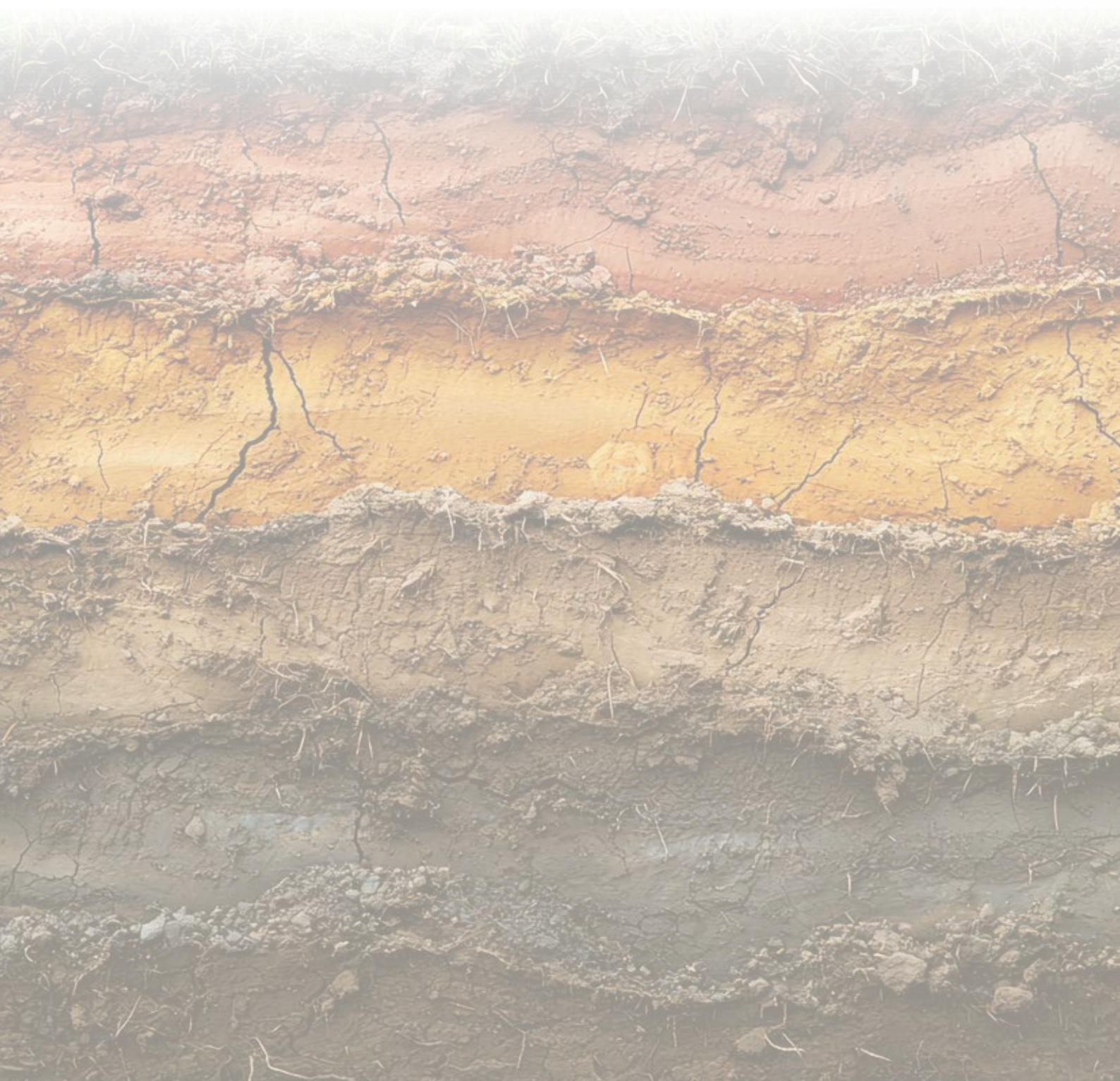
3.2 OUTCOME 2: SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES

The focus of Outcome 2 is to generate knowledge and technologies (intellectual property and tools) that will conserve natural resources and sustain agriculture.

The Outcome focuses on improving the productivity, competitiveness and sustainability of both commercial and smallholder based agriculture through research and technology in areas related to efficient energy utilisation, water management and irrigation practices; the rehabilitation, utilisation, development and protection of natural agricultural resources; new and improved conservation and climate-smart agriculture systems; improved monitoring and characterisation systems for natural resources and genetic material; and mechanised farming and irrigation practices, techniques, equipment and machinery.

Outcome 2 is the focus of the following ARC Divisions:

1. Crop Sciences; and
2. Research and Innovation Systems.



OUTCOMES, OUTPUTS, OUTPUT INDICATORS, TARGETS AND ACTUAL ACHIEVEMENT

OUTCOME 2: SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES							
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025	REASONS FOR DEVIATIONS
Natural Resource Management	Number of technical reports	103	91	93	95	2	Target exceeded due to additional projects commissioned by DALRRD.
	Number of field trials	60	51	54	67	13	More field trials were requested
	Number of services rendered	663	647	430	581	151	More services requested than initially targeted
	Number of biological control solutions developed	0	0	0	0	0	No annual target
Soil and Water Science	Number of samples analysed for soil health and water quality	523	778	245	909	664	Target exceeded due to a higher number of requests for diagnostic services particularly for Next Generation Sequencing, Nematology and Mycology.
	Number of scientific solutions	0	0	0	0	0	No annual target
	Number of technical reports	42	64	48	52	4	Target exceeded due to additional projects commissioned by DALRRD.
	Number of services rendered	487	454	350	397	47	More samples were received for analysis
Weed Science	Number of technical reports	12	10	5	6	1	Target exceeded due to additional projects commissioned by DALRRD
	Number of services rendered	6	0	0	0	0	No annual target
Ecosystem services	Number of technical reports	6	10	5	10	5	Target exceeded due to additional projects commissioned by DALRRD
	Number of services rendered	0	0	0	0	0	No annual target

SIGNIFICANT ACHIEVEMENTS OF TARGETS

NATURAL RESOURCE MANAGEMENT:

There is a direct linkage between field trials, services rendered and technical reports. We've exceeded our targets for work relating to natural resources due to a number of factors, including increased footprint and visibility at various exhibitions, farmer days and stakeholder engagements during the reporting period e.g. the ARC/DALRRD conference enhanced collaboration between the ARC and various other stakeholders leading to improved performance under this output. Favourable weather conditions contributed to more field trials that could be successfully conducted and reported on and sustained performance of the agricultural sector.

SOIL & WATER SCIENCE, WEED SCIENCE AND ECOSYSTEM SERVICES

The ARC received more than the expected sample numbers for soil and water microbial diversity testing using the Next Generation Sequencing (NGS) technologies. Additionally, the ARC received a higher number of requests for diagnostic services by DALRRD in Nematology and Mycology.

PRIORITISATION OF WOMEN, YOUTH AND PERSONS WITH DISABILITIES

Natural Resources Management consistently achieves gender parity in participation across ARC projects, including training and advisory services. Climate Smart technologies are widely adopted, as both farmers and households demonstrate strong interest in mitigating weather-related risks impacting their production systems. During the year, individuals with disabilities represented an average of 1% of participants.

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

All performance targets were met/exceeded during the financial year.

Linking performance with budgets

OUTCOME	2024/2025			2023/2024		
	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)
Outcome 2	313 397	328 302	(14 906)	270 343	259 665	10 678
Total	313 397	328 302	(14 906)	270 343	259 665	10 678

3.3 OUTCOME 3: IMPROVED NUTRITIONAL VALUE, QUALITY AND SAFETY OF AGRICULTURAL PRODUCTS

The focus of Outcome 3 is to generate knowledge, solutions and technologies for food safety, quality, and improved efficiencies in the agriculture value chain, with particular focus on agro-processing, pre- and post-harvest processing biotechnology, and informatics, each cross-cutting across different areas of the agricultural value chain and intended to be applied to the full value chain of crops, animals and agricultural system research.

Outcome 3 is the focus of the following ARC Divisions:

1. Crop Sciences; and
2. Research and Innovation Systems



OUTCOMES, OUTPUTS, OUTPUT INDICATORS, TARGETS AND ACTUAL ACHIEVEMENT

OUTCOME 3: IMPROVED NUTRITIONAL VALUE, QUALITY AND SAFETY OF AGRICULTURAL PRODUCTS							
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025	REASONS FOR DEVIATIONS
Broadening the food base	Number of cultivars registered	0	4	0	0	0	No annual target
	Number of field trials	6	13	8	6	(2)	Remaining two targets were missed because the researcher is waiting for tissue culture plants to plant in other locations. Amadumbe is frost sensitive and planting will be done after the winter in 2025
	Number of technical reports	102	151	78	78	0	No variance
	Number of cultivar evaluations	41	48	25	38	13	The number of cultivar evaluations exceeded the planned target by 16, due to the analysis of 16 tomato genotypes from Joordens Zaden. These were evaluated against a control cultivar for resistance to <i>Meloidogyne</i> spp. (root-knot nematodes). Although this activity was not part of the original plan, it was a strategic addition aligned with our pest resistance screening objectives.
	Number of new products developed	0	2	5	8	3	Product development was faster than anticipated
Post-harvest handling and agro processing	Number of services rendered	44	38	26	38	12	Larger than anticipated request for services in this area.
	Number of cultivars developed with improved shelf life	0	0	0	0	0	No annual target
	Number of new post-harvest solutions developed	0	0	0	0	0	No annual target
	Number of solutions for controlled atmosphere	1	2	0	2	2	New controlled atmosphere solutions developed for 'Golden Delicious' and 'Fuji' apples
	Number of services rendered	55	58	15	17	2	Higher demand for services from industry

SIGNIFICANT ACHIEVEMENTS OF TARGETS

BROADENING THE FOOD BASE:

Increased footprint and visibility of the ARC service portfolio contributed to improved performance. Favourable weather conditions contributed to successfully conducted cultivar evaluations. Higher than expected external client access to the ARC's Core Analytical unit for services were mostly responsible for this over performance and included clients from the different universities.

POST-HARVEST HANDLING AND AGRO-PROCESSING

New controlled atmosphere solutions developed for 'Golden Delicious' and 'Fuji' apples – Rodney Hart Services – increased marketing efforts of ARC services. Economy driven requests for services for export purposes. Ability to provide solutions to this.

PRIORITISATION OF WOMEN, YOUTH AND PERSONS WITH DISABILITIES

Female and youth participation was high due to the programme's emphasis on crops like sweet potato, potato, and cassava. Over 50% of those involved in training and bio slurry trials were women and youth. Future efforts will target greater inclusion of people with disabilities, especially through accessible technologies along the food production value chain.

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

BROADENING THE FOOD BASE – NUMBER OF FIELD TRIALS.

Unfavourable weather (unexpected frost) and climate destroyed some of the material that was to be used.

LINKING PERFORMANCE WITH BUDGETS

Outcome	2024/2025			2023/2024		
	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)
Outcome 3	48 833	51 156	(2 323)	42 125	40 461	1 664
Total	48 833	51 156	(2 323)	42 125	461	1 664

3.4 OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

The focus of Outcome 4 is to provide strategies, analysis, and information to develop and grow a competitive, productive and diverse agricultural sector, and provide a support service to identify and develop the commercial potential of agricultural research and development, so as to address smallholder and commercial farmer constraints.

Agricultural excellence depends on the organisation's skilled human resources, and this is important for establishing sustainable growth in the South African agricultural economy. For the ARC to achieve this, specialist and postgraduate training of students and staff is crucial and underpins the diagnostic and research activities of the ARC. This knowledge enhancement will ensure that the ARC has a critical mass of scientists to contribute to the continuity of the research and development agenda of the organisation.

The Outcome further focuses on the implementation of initiatives to address smallholder farmer constraints in terms of access to resources (technology, information, etc.). This includes the packaging, exploitation and licensing of ARC research and development outcomes to enhance the capacity and skills of farmers, extension personnel, processors, and enterprises through facilitating the utilisation of ARC intellectual property.

The ARC provides unparalleled personalised education and training for the farming sector in addition to conveying management solutions to assist the wide spectrum of veterinary and associated professions.

This will ensure that the ARC is better placed to disseminate and transfer the knowledge generated to farmers and extension agents for a sustainable agricultural sector and a food secure South Africa. The dissemination of the generated knowledge through scientific and other popular publications is a key output of the ARC and will ensure an informed society, thereby enhancing the visibility of the organisation.

Outcome 4 is the focus of the following ARC Divisions:

1. Crop Sciences;
2. Animal Sciences;
3. Research and Innovation Systems; and
4. Impact and Partnerships



OUTCOMES, OUTPUTS INDICATORS, TARGETS AND ACTUAL ACHIEVEMENT, OUTPUT

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR						
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025
Skills development	Number of people trained	1 375	939	770	2 214	1 444
	Number of postgraduate students supported by ARC	52	63	35	53	18
	Number of technologies/IP registered/developed	2	7	4	3	(1)
Technology Transfer	Number of enterprises supported	6	5	0	0	No annual target
	Number of technologies transferred under license	137	0	30	30	No variance
Smallholder farmer supported	Number of farmers trained	1 246	3 068	880	1 625	745
	Number of technical assessments for commercial readiness	30	44	60	67	7
	Number of smallholder farmers participating in KyD	7 096	4 646	5 500	6 911	1 411
	Number of services rendered	179	152	104	158	54
	Number of farmer field days	5	5	21	28	7
						Collaborative work with DALRRD resulted in higher attendance at training events
						Students graduated earlier than anticipated
						IP registration authorities are responsible for granting IP rights and follow their own independent process. No IP has been granted to date, and engagement with the relevant parties is ongoing
						No annual target
						No variance
						Higher demand for farmer training
						More farmers than anticipated participating in the KyD scheme and volunteered to do assessments
						More farmers enrolled to participate in the KyD Scheme because of ARC awareness campaigns during the previous quarters
						DALRRD funding allowed more work with smallholder farmers than anticipated, pushing numbers up
						Field days took place earlier than originally planned

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR						
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025
Farmer support	Number of farm assessments	19	1	7	10	3
	Number of farmers supported	420	748	94	246	152
	Number of farmer field days	37	71	35	97	62
	Number of services rendered	112	164	114	147	33
	Number of scientific publications	479	428	277	325	48
Knowledge generated and dissemination	Number of popular publications	251	236	80	235	155
	Number of public awareness events	187	171	124	243	119
REASONS FOR DEVIATIONS		Higher demand for farm assessments Farmers supported with DALRRD funded projects DALRRD funding allowed the KyD project to conduct more farmers days across all provinces More farmers submitted animal performance data because of ARC awareness campaigns Publications published earlier than anticipated Conscious effort to increase popular publications during the financial year yielded more publications. Additional DALRRD projects required more awareness events to the different provinces, particularly, Mpumalanga, Eastern Cape, Limpopo and KwaZulu Natal				

SIGNIFICANT ACHIEVEMENTS OF TARGETS

SKILLS DEVELOPMENT:

The training interventions are assisting with skills development in the sector, especially on new climate-smart production approaches to mitigate the impact of climate change, surveillance and control of animal diseases, and performance of laboratory tests.

The continued work of the ARC in terms of skills development is key towards competitiveness of the agricultural sector. These achievements were made possible through innovative partnerships with government, academia and industry.

Due to the increased skills development activity because of the DALRRD-SLA, demand for capacity development increased and more events were organised. Efforts to strengthen ARC partnerships with Provincial Departments also resulted in ARC delivering various forms of training to strengthen capacity for extension delivery and Climate Smart Agriculture. In addition, collaboration with universities that include the Centre of Collaboration for “Economics of Agriculture Research and Development Policy”, the ARC has been able to exceed the set targets for post graduate student support and graduations.

TECHNOLOGY TRANSFER:

The ARC managed to achieve the set target for the year. In addition, expressions of interest to identify potential licensees for new technologies were made through supply chain processes. This helps to ensure inclusive access by stakeholders and potential partners to ARC technologies.

SMALLHOLDER FARMER SUPPORTED:

These services are assisting communal livestock farmers to improve the genetic quality of the herds and flocks thereby enhancing their prospects to actively participate in the formal livestock value chains. Laboratory test reports issued to poultry farmers, assisted them to identify and control diseases through these diagnostic services provided to them.

The ARC conducted various farmers days across all the provinces through the KyD project. These farmer’s days covered a number of key topics in animal production.

FARMER SUPPORT:

The KyD created market access opportunities for communal farmers through hosting of live animal auctions in partnership with Provincial Departments of Agriculture. These auctions enhanced the rural economy through attracting other economic activity to support successful hosting of the auctions.

KNOWLEDGE GENERATION AND DISSEMINATION:

ARC performed exceptionally well in scientific publications and peer reviewed articles in the year under review. This reflects the high calibre of ARC scientists, and high levels of excellence in the research conducted. This was largely due to increased research and development activities made possible through the ARC-DALRRD SLA. A significant number of publications were published in international peer-reviewed journals with high impact factor which is an indication of the quality of our scientific output.

Focussed efforts to develop skills for science communication, and collaboration with popular media also paid off, as ARC did exceptionally well in the publication of popular articles. These covered a range of issues that are of interest to the sector and provided a channel for disseminating knowledge generated through research.

PRIORITISATION OF WOMEN, YOUTH AND PERSONS WITH DISABILITIES

Participation of women, youth and persons living with disabilities has been mainstreamed in our farmer support programmes. In terms of farmer training interventions, the proportion of women and youth that received training were 60% and 40% respectively. Furthermore, the youth (78%) and women (72%) featured prominently in our postgraduate training programme.

Steady progress has also been made in improving active participation of women and youth in our smallholder farmer development scheme through KyD. Specifically, the representation of women and youth was 37% and 10% respectively. Thus, the participation of women, youth and persons with disabilities remain an area for improvement.

ARC has a “Research and Development Gender Integration and Inclusivity Strategy” which guides the actions to ensure prioritisation of women, youth and persons with disabilities in research and development programmes. Most of the training that ARC conducts with Provincial Departments targets to have women and youth. In ARC training and public awareness events, provisions are made to cater for the needs of persons living with disabilities.

Young researchers were trained in scientific writing and assisted to prepare journal articles through internal write shops that were jointly organised with Universities of Pretoria, Venda, Limpopo, and Fort Hare

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

TECHNOLOGY TRANSFER - NUMBER OF TECHNOLOGIES/IP REGISTERED/DEVELOPED

The development and registration of IP in ARC is subject to the progress of research projects and results thereof. Environmental and climatic factors such as pests, and droughts can impact outcomes of research trials. Going forward the ARC will sharpen the target to focus on delivery that falls largely within ARC control.

LINKING PERFORMANCE WITH BUDGETS

OUTCOME	2024/2025			2023/2024		
	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)
Outcome 4	366 734	384 176	(17 442)	316 353	303 858	12 495
Total	366 734	384 176	(17 442)	316 353	303 858	12 495

3.5 OUTCOME 5: ENHANCED RESILIENCE OF AGRICULTURE

The focus of Outcome 5 is to enhance the resilience of the agriculture sector to factors such as Climate Change. Weather variability and climate change have a direct impact on food security, especially in semi-arid and arid countries.

The Outcome focuses on climate monitoring for agriculture and the effective maintenance of an operational national agro-climate weather station network for effective provision of weather and climate related services.

In addition, infectious animal disease agents including bacteria, viruses, and parasites, evolve in response to pressures that include immunologic and antimicrobial agents. We provide effective and efficient diagnostic and analytical services and a wide range of applied research and consultancy services on livestock diseases at local, provincial, national, and regional levels. The world-class veterinary research focuses on the development and improvement of diagnostic and analytical services and applying the latest biological techniques. The development of vaccines to improve the health of the national herd through the prevention of key important diseases for the region is vital.

Outcome 5 is the focus of the following ARC Divisions:

1. Crop Sciences;
2. Animal Sciences; and
3. Research and Innovation Systems



OUTCOMES, OUTPUT INDICATORS, TARGETS AND ACTUAL ACHIEVEMENTS

OUTCOME 5: ENHANCED RESILIENCE OF AGRICULTURE							
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025	REASONS FOR DEVIATIONS
Climate resilient solutions	Number of climate resilient solutions adopted	0	0	0	0	0	No annual target
	Number of drought tolerant cultivars	0	0	0	0	0	No annual target
	Number of services rendered	0	0	0	0	0	No annual target
	Number of technical reports	8	11	12	14	2	More technical reports due to additional projects
	Number of field trials	129	117	114	137	23	Higher demand for field trials
Vaccine production	Number of tools for measuring climate change	410	414	410	413	3	More active weather stations than anticipated
	Number of blood vaccine doses produced	186 481	164 292	161 000	183 661	22 661	Higher demand for blood vaccines
	Number of different types of vaccines developed	0	0	1	0	(1)	Testing of the Recombinant LSD-FMD vaccine could not proceed due to repair work needed to keep the TAD Quarantine facility safe to conduct trials that need high containment
	Number of FMD vaccine doses produced	0	0	1	0	(1)	Awaiting delivery and assembly of the mid-scale production infrastructure.
	Number of vaccine clinical trials	1	0	0	0	0	No annual target

OUTCOME 5: ENHANCED RESILIENCE OF AGRICULTURE							
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025	REASONS FOR DEVIATIONS
Laboratory services	Number of test reports issued for animal health	21 573	23 940	16 145	22 073	5 928	A combination of factors contributed to the target being exceeded. Outbreaks of Foot and Mouth Disease in the Eastern Cape and KwaZulu Natal resulted in an increase of submissions for disease investigations and surveillance. DALRRD increased the number of samples submitted for testing at the Residue Laboratory.
	Number of tests performed for food and feed	2 943	3 125	2 510	3 071	561	Attributable to enhancement of laboratory outputs due to increased DALRRD funding for testing
	Number of services rendered	302	308	200	274	74	Increased marketing efforts led to more farmers and extension officers learning about our offerings and actively requesting our services, particularly during planting seasons.
	Number of technical reports	15	18	16	28	12	Extension of some projects was granted after annual targets had been set

SIGNIFICANT ACHIEVEMENTS OF TARGET

CLIMATE RESILIENT SOLUTIONS

The ARC achieved its annual targets for climate resilience reports owing to increased demand for rangeland condition assessment from game ranches in view of climate change. These technical reports play an important role in the development of range management strategies in the game and wildlife industry.

LABORATORY SERVICES

The Analytical Services Laboratory in Irene and Elsenburg underwent an annual compliance audit conducted by the South African National Accreditation System (SANAS). SANAS is the only national body responsible for carrying out accreditations in respect of conformity assessment in line with the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act (Act 19 of 2006). Our laboratories retained the accreditation, making us the service provider of choice for government, industry, and academia.

Due to the number of FMD and Avian Influenza outbreaks in the country, the number of samples received for residue monitoring, and extension of research projects increased.

PRIORITISATION OF WOMEN, YOUTH AND PERSONS WITH DISABILITIES

Steady progress has been made in improving active participation of women and youth in our intervention activities in smallholder farmer development and commercial agriculture. We shall continue to focus on initiatives that are aimed at increasing the participation of women, youth and persons with disabilities. The participation of women, youth and persons with disabilities remain an area for improvement.

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

VACCINE PRODUCTION - NUMBER OF DIFFERENT TYPES OF VACCINES DEVELOPED & NUMBER OF VACCINE CLINICAL TRIALS:

The LSD-FMD recombinant vaccine will be tested, and the multivalent FMD vaccine produced in the next financial year, following inspection of the BSL3 facility by DALRRD, and delivery of midscale production system respectively.

LINKING PERFORMANCE WITH BUDGETS

OUTCOME	2024/2025			2023/2024		
	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)
Outcome 5	549 774	475 922	(26 148)	474 248	455 516	18 731
Total	549 774	475 922	(26 148)	474 248	455 516	18 731

3.6 OUTCOME 6: A HIGH PERFORMING AND SUSTAINABLE ORGANISATION

Outcome 6 is the platform for delivery against the ARC mission and the realisation of the ARC impact. The focus of Outcome 6 is to ensure:

1. Addressing the current working capital gap and financial position through the implementation of a targeted and robust Sustainability and Turnaround Plan; and
2. Ensuring excellence in scientific research and development through enhanced capacity, capabilities and appropriate organisational technology and infrastructure.

The Outcome focuses on improving organisational effectiveness and efficiency towards a sustainable ARC. It includes promoting public accountability, achieving high standards of corporate governance and efficient resource utilisation, strengthened revenue generation and productivity, and good stakeholder engagement to ensure optimal organisational performance, visibility, and service delivery.

Outcome 6 is delivered by the Corporate Support Divisions of the ARC, namely:

1. Office of the CEO;
2. Human Capital Management;
3. Impact and Partnerships;
4. Finance; and
5. ICT and Infrastructure.



OUTCOME 6: A HIGH PERFORMING AND SUSTAINABLE ORGANISATION						
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025
Infrastructure Management	Number of business cases developed for implementation of assets management plan	4	3	3	4	1
						The implementation of the new Facilities Management plan has led to significant and tangible business improvements across the organisation. This comprehensive plan has addressed critical needs within our facilities, resulting in enhanced operational efficiency, better resource allocation, and improved maintenance processes. These improvements are being systematically implemented throughout the organisation, ensuring that all departments benefit from the upgraded facilities management practices. The positive impact of this plan is already evident in the streamlined workflows and increased productivity observed in various areas.
ICT Strategy Implementation	Increase in Rand value of rental income	5.9%	6.71%	3%	6.24%	3.24%
						As the economy continues to recover, there has been a noticeable increase in demand for farm rental properties. This trend is driven by businesses resuming their operations and individuals seeking to re-establish their business ventures.
	Number of digital transformation projects implemented	4	3	3	5	2
	Number of Stabilisation projects implemented	2	2	1	1	0
	Number of Optimisation projects implemented	4	4	3	3	0
						Target achieved
						Target achieved

OUTCOME 6: A HIGH PERFORMING AND SUSTAINABLE ORGANISATION							
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025	REASONS FOR DEVIATIONS
Human resources Management	Vacancy rate	12.20%	12.09%	12%	11.95%	0.05%	Target achieved
	Support employees as percentage of total staff	20.70%	20.96%	20%	20.60%	(0.60%)	The DALRRD project necessitated appointment of 39 additional support staff on a fixed term basis which contributed to the increased support staff percentage.
	Percentage increase of Employment equity ratio in the designated groups in core business, in respect of: - Women at Senior Management level	50%	50%	50%	50%	0	Target achieved
	People with Disabilities Employed	0.41%	0.34%	1%	1%	0	Target achieved

OUTCOME 6: A HIGH PERFORMING AND SUSTAINABLE ORGANISATION						
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025
Performance management	Improve the leadership dimensions of 360-degree results of Management, Senior and Executive Management	Not undertaken during the financial year	0	3.5	4	0.5
	Alignment of organisational values		0	90%	96%	6%
	Percentage implementation of change management strategies linked to culture survey and 360-degree leadership processes		0	100%	73%	(27%)
		There were 11 change strategic initiatives under the culture survey pillars. 8 were implemented leading to 73%. The 3 that were not implemented are Talent Management Framework, Leadership Development and Team based engagement structure. Talent Management Framework – Framework developed but not yet approved. Leadership Development Programme – Still in progress of appointment of service provider. The team-based engagement structure was not put in place as our performance methodology was individual focus and only now it will take consideration of the organisation, team and individual hence there were no engagement platforms of team-based engagements.				
		Target achieved				
		Target achieved				

OUTCOME 6: A HIGH PERFORMING AND SUSTAINABLE ORGANISATION							
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025	REASONS FOR DEVIATIONS
Human resource development	Number of employees appointed with Masters degrees	17	19	20	29	9	Target achieved
	Number of employees appointed with Doctoral degrees	19	10	15	23	8	Target achieved
	Number of employees with Masters degrees	185	178	200	204	4	Target achieved
	Number of employees with Doctoral degrees	241	245	240	251	11	Target achieved
	Percentage staff turnover	3.8%	3.72%	4%	3.04%	0.96%	Target achieved
	Total spend on PDP stipend and registration	R1.76mil	R179 127	R 5mil	R 0	R5 mil	Target achieved
Commercialisation of ARC solutions	Training spend as a % of salary bill	1%	1%	1%	1.18%	0.18%	Target achieved
	Establishment of an ARC commercialisation entity	Not finalised	0	Registration of the entity	0	(No registration)	ARC is awaiting a formal response from the Department of Agriculture on the request for establishing the commercialisation entity. Discussions are ongoing.
Exhibitions and sponsorships	Number of exhibitions, sponsorships	34	22	9	27	18	Increased brand visibility and stakeholder engagement led to an increase in exhibitions during the period under review.
International partnerships	Number of new international partnerships	4	2	2	2	0	Target achieved
Governance	Audit opinion	Qualified audit	Qualified audit	Unqualified audit	Unqualified audit	0	Target achieved

OUTCOME 6: A HIGH PERFORMING AND SUSTAINABLE ORGANISATION						
OUTPUT	OUTPUT INDICATOR	AUDITED ACTUAL PERFORMANCE 2022/2023	ACTUAL ACHIEVEMENT 2023/2024	PLANNED ANNUAL TARGET 2024/2025	ACTUAL ACHIEVEMENT 2024/2025	DEVIATION FROM PLANNED TARGET TO ACTUAL ACHIEVEMENT 2024/2025
Funding and revenue generation	Zero Deficit	Zero Deficit	Zero Deficit	Zero deficit	R184.3 mil surplus	R 184.3 mil
	B-BBEE rating	Non-compliant	Non-compliant	Level 5	Non-Compliant	Non-compliant
	External income as % of total revenue	23%	33%	26%	46%	(20%)
	Rand value of royalty income	R47 mil	R44 mil	R 32 mil	R42.8 mil	R 10.8 mil
Cost efficiencies	Reduction in fixed cost	(10%)	(22%)	2%	(24%)	(26%)
	Personnel costs as % of Operational PG	83%	88%	86%	111%	(25%)
		Reasons for deviations				
		Primarily driven by DALRRD SLA projects				
		ARC failed to perform on two elements i.e. skills development and socio-economic development. Plans to close the gaps are underway				
		Driven by SLA projects from the Department of Agriculture				
		The increase in royalty revenue is primarily attributed to effective and ongoing oversight of licensing agreements, which has strengthened compliance and ensured strategic alignment. This coupled with the unexpected strong performance of license technologies and successful conclusion of new license agreement, has resulted in variance in revenues.				
		Additional resources employed to deliver on the external projects.				
		Additional resources engaged to deliver on SLA projects.				

SIGNIFICANT ACHIEVEMENTS OF TARGETS

INFRASTRUCTURE MANAGEMENT

The Facilities Management framework and plan have been updated to enhance our organisation's facilities and infrastructure services by improving operational efficiency, resource allocation, and maintenance processes. These updates were applied across all departments and sites, resulting in streamlined workflows and increased productivity. As part of this plan, national support contracts for key services in facilities were established to enable the division to respond promptly to all service requests, ensuring support for core lines of business.

The facilities division also developed a national property management and maintenance plan to provide a comprehensive approach to managing and maintaining ARC's various national facilities. As part of the property management plan, the ARC appointed a national property management agency to optimise unused ARC land and infrastructure to generate external income for self-sustainability and maintenance, allowing ARC's operational budgets to focus on supporting ARC's core line of business. The ARC also conducted a power assessment to prioritise renewable energy and energy-saving measure projects in response to the increased electrical cost and load-shedding. An asset retagging and verification process was carried out to ensure all assets were recorded, and redundant or broken assets were disposed of and removed from the floor.

Additionally, the ARC has completed several infrastructure investment projects, including solar installations, procurement of new farm equipment, generator replacements, upgrades to the ARC fleet, building refurbishments, and key infrastructure maintenance.

ICT STRATEGY IMPLEMENTATION

One of the most significant digital transformation initiatives within the ICT sector has been the implementation of a new Contract Management module. This module has revolutionised the way contracts are handled, making the process more streamlined and efficient. With this digital system, all contracts are now stored in a centralised database, which allows for easy access, tracking, and management. The automation of contract workflows minimises the risk of human error, ensures compliance with regulatory requirements, and reduces the time spent on administrative tasks.

Another notable initiative is the deployment of the Direct Hire system. This system has greatly simplified the hiring process by providing a platform where job openings can be posted, applications can be received, and candidates can be managed all in one place. The Direct Hire system has reduced the time and cost associated with recruitment by automating repetitive tasks and improving the accuracy of candidate matching. It also enhances the candidate experience by providing a seamless and user-friendly application process. The system's analytics tools offer valuable insights into hiring trends and performance, aiding in the continuous improvement of the recruitment process.

In addition to these systems, the continuous development and deployment of mobile applications have been instrumental in assisting farmers with crop production and disease management. These applications provide farmers with up-to-date advisory services, including guidance on best farming practices, pest and disease identification. By leveraging mobile technology, farmers can access critical information at their fingertips, enabling them to make informed decisions that enhance productivity and sustainability. The mobile apps also facilitate communication between farmers and agricultural experts, fostering a collaborative approach to problem-solving. This initiative contributes to better crop yields within the country and ensures food security.

Lastly, the integration of the Labware system with the ERP (Enterprise Resource Planning SAGE X3) system has significantly improved the flow of information between these two critical systems. This integration ensures that data from laboratory operations is seamlessly transferred to the ERP system, providing a comprehensive view of the organisation's processes and resources. The benefits of this integration include improved turnaround times for jobs completed through Labware, enhanced financial reporting as revenue can be recognised at early stages with minimal delays, and better resource planning. By ensuring that laboratory data is readily available in the ERP system, the organisation can make more informed decisions, optimise resource allocation, and streamline its operations.

HUMAN RESOURCE MANAGEMENT:

The ARC continues to be a trendsetter in the research and development space in the country. Ensuring food security in the Republic is the ARC's main focal priority; therefore, it continues to hire specialist talent to fulfil its mandate.

The following are the highlights for the year under review:

- Being recognised as **#TopEmployer** for the 3rd time in a row.
- Improved enrolment of graduate development to build our talent pipeline.
- Sound labour relations.
- Improved 360-degree leadership dimensions.
- Improved disability representativity

PERFORMANCE MANAGEMENT

The ARC values accountability and has introduced performance management in its structures to ensure ARC meets its goals. HCM ensured an effective and well-articulated process for accomplishing evaluation activities, with defined roles and timelines for employees to ensure that their Performance Agreements and Reviews are aligned with the overall organisational strategy, needs and objectives.

As part of the individual performance management process and to strengthen the leadership capacity within the ARC, Executive, Senior and Middle Managers are subject to a 360-degree leadership assessment. There has been significant improvement in all leadership dimensions as compared to previous years with a rating score of 4 out of a 5 compared to the rating of 3.7 in 2023/24FY.

HUMAN RESOURCE DEVELOPMENT

Human Resource Development is crucial for organizations as it directly influences their ability to achieve strategic goals, maintain competitiveness, and foster a thriving workplace culture. It ensures that people with right skills are attracted and retained in the organisation with a clearly defined employee lifecycle and how it impacts on organisational performance.

The ARC continues to strengthen its research talent pipeline by drawing from a growing pool of professional development programme students. Students enrolled in the ARC's PDP receive practical learning experiences and mentorship from experienced researchers, along with academic supervision from universities. The enrolment in Master's, Doctoral, and Postdoctoral programmes has shown consistent growth, with Master's students forming the largest cohort. This trend supports ARC's strategy of appointing entry-level researchers from among recent graduates.

EXHIBITIONS AND SPONSORSHIPS

Outcome 6 provides the platform for delivery against the ARC mission and for the realisation of impact. It focuses on organisational sustainability, effectiveness, and accountability, while strengthening visibility, stakeholder engagement, and service delivery. Exhibitions and sponsorships form part of this work by placing the ARC's science in the public domain, creating opportunities for direct engagement with stakeholders, and enhancing the organisation's profile nationally and internationally.

In the 2024/25 financial year, the ARC participated in 27 exhibitions across the country. These were spread across all four quarters and placed the organisation in direct conversation with farmers, communities, policymakers, industry, and international partners.

The first quarter opened with the Food for Mzansi Young Farmers Indaba in Pretoria, where ARC engaged emerging farmers and youth with crop varieties, agro processing products, and laboratory services. This was followed by the Child Poverty, Food and Nutrition Drive in the Eastern Cape, where exhibitions in schools and early childhood centres highlighted the role of agriculture in addressing hunger and malnutrition.

The second quarter carried ARC into national showcases. The Royal Agricultural Show in KwaZulu Natal and NAMPO Harvest Day in the Free State drew thousands of farmers and agribusiness stakeholders to ARC stands that featured seeds, livestock

innovations, and processed products. Campus based exhibitions for International Plant Health Day and World Bee Day extended public awareness on biodiversity and ecological balance.

The third quarter was defined by strong visibility in policy and science spaces. At the Essential Oil Conference in Pretoria, ARC demonstrated its testing capabilities to support export growth in the sector. During the oversight visit by the Portfolio Committee on Agriculture, Land Reform and Rural Development, Members of Parliament engaged with ARC outputs in exhibitions that accompanied laboratory tours and presentations. The Science Forum South Africa (SFSa) in December at the CSIR International Convention Centre in Pretoria provided the largest public stage for ARC to showcase its role at the interface of science and society. The ARC exhibition drew the attention of the Minister of Science, Technology and Innovation during the opening of the Forum and highlighted the organisation's products and services anchored in the public good. Later in the quarter, at the Title Deed Handover in Limpopo, ARC provided information on training and crop choices to land restitution beneficiaries preparing to re-establish farming enterprises.

The final quarter concluded with a focus on innovation and global dialogue. The Agro Processing Workshop in Ha Masia showcased practical demonstrations in fruit drying, essential oil distillation, and moringa processing, with more than one hundred farmers in attendance. The Goat Commercialisation Workshop with the Technology Innovation Agency convened stakeholders from across the goat industry, with ARC campuses exhibiting genetics, dairy, and animal health expertise. The G20 National Dialogues at Roodeplaat closed the year, combining policy consultation with an exhibition that presented aquaponics, hydroponics, dairy tastings, and bursary opportunities.

Across all four quarters, 27 exhibitions reflected the depth and breadth of ARC's work. They positioned the organisation's science where it could be accessed and applied, reinforced visibility in both community and global contexts, and supported accountability through direct engagement with stakeholders. In doing so, exhibitions contributed to the performance and sustainability of the ARC under Outcome 6.

INTERNATIONAL PARTNERSHIPS:

The ARC's efforts to expand international collaborations and enhance its visibility were reflected through the signing of MoUs with the Chinese Academy of Agricultural Sciences (CAAS) and with the National Institute of Agricultural Research of Algeria. ARC scientists participated in numerous international conferences and virtual engagements, contributing to science driven solutions to global challenges.

GOVERNANCE – AUDIT OPINION

The ARC achieved an unqualified audit opinion after 8 years of consecutive qualified audit opinion. This was achieved on the back of improved internal controls around the management of its property, plant and equipment and implementation of the audit improvement plan.

PRIORITISATION OF WOMEN, YOUTH AND PERSONS WITH DISABILITIES

Prioritisation of Women: Part of the EE Plan was to drive appointment of women in Senior Management Position within the core business (Agricultural Science). Over the past year, the Facilities division also employed a few young women to enhance women's technical capacity in facility services.

Youth: Intensified training through various skills development programmes (Internship, Graduate Development Programme) to build a talent pipeline for job opportunities within ARC. To verify its 80,000 assets nationally, the ARC needed several temporary resources for physical retagging and verification. To give young graduates corporate experience, the ARC hired young temporary asset clerks on short-term contracts to fulfil this task.

Persons with disabilities: Maintain inclusive recruitment practices and ensure accessibility in job advertisements, interviews, and workplace environments. Partner with disability organisations and talent agencies to expand outreach and sourcing of qualified candidates with disabilities. Continue to ensure all new employees and current declare status of disability on the EEA1. All infrastructure refurbishments and maintenance tasks were aimed at improving accessibility for people with disabilities in the ARC.

STRATEGY TO OVERCOME AREAS OF UNDER PERFORMANCE

HUMAN RESOURCE MANAGEMENT - SUPPORT EMPLOYEES AS PERCENTAGE OF TOTAL STAFF:

Introduce a mechanism to clearly distinguish fixed-term project-based appointments from core staffing in workforce reports to avoid skewing strategic HR ratios.

PERFORMANCE MANAGEMENT - PERCENTAGE IMPLEMENTATION OF CHANGE MANAGEMENT STRATEGIES LINKED TO CULTURE SURVEY AND 30-DEGREE LEADERSHIP PROCESSES:

To address the gaps going forward: the review of the ARC's Total Reward Strategy incorporates recognition and reward, retention strategies etc. Further there will be a Talent Management Framework developed that will support succession, retention and talent attraction strategies. Lastly customised ARC Leadership Development Programme will also be developed and implemented.

Commercialisation of ARC Solutions - Establishment of an ARC commercialisation entity: ARC has submitted to the new Minister of Agriculture, via the Director General, the request for written support to establish the Commercialisation entity. With the letter of approval from the Minister of Agriculture is received, ARC will reengage Treasury to finalise the process for the Entity establishment. There are also ongoing engagements with the Department on ARC's broader commercialisation strategy.

COST EFFICIENCIES

The ARC did not achieve the desired performance target due to the increase in activities to deliver on the requirements of the service level agreement signed with the Department of Agriculture which resulted in an increase in external income.

REDUCTION IN FIXED COSTS

The ARC did not achieve the desired performance target due to increased activities to deliver on the external projects as a result repairs and maintenance, professional fees, personnel costs realised a significant increase compared to the previous financial year.

PERSONNEL COSTS AS % OF OPERATIONAL PG

The ARC did not achieve the desired performance target due to the increase in personnel resources to deliver on the requirements of the service level agreement signed with the Department of Agriculture which resulted in an increase in external income.

B-BBEE RATING

ARC has achieved a non-compliant BBBEE level for the past financial year. BEEE Level is measured in the following four categories:

- Management control
- Skills development
- Enterprise and supplier development
- Socio-economic development

ARC scored low for skills development and socio-economic development which then affects the overall score. As an intervention for the new financial year ARC is in the process of appointing an experienced service provider to assist with the gathering and review of the information to be submitted for BBBEE level assessment to ensure that it meets the requirements so that ARC can achieve a higher BBBEE level.

LINKING PERFORMANCE WITH BUDGETS

OUTCOME	2024/2025			2023/2024		
	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)	Budget (R'000)	Actual Expenditure (R'000)	(Over)/Under Expenditure (R'000)
Outcome 6	408 057	427 465	(19 408)	351 999	338 097	13 902
Total	408 057	427 465	(19 408)	351 999	338 097	13 902

REASONS FOR VARIANCE:

Grant: the difference is the deferred income for the FMD project funding that was received in advance as well as the amount received from the DoA SLA for capital items.

External income: the difference is from the revenue recognised based on the project activities of the DALRRD SLA

Other income: mainly from interest generated from funds received in advance.



CAPITAL INVESTMENT

INFRASTRUCTURE CAPITAL INVESTMENT PROJECT FY24/25

For the 2024/2025 financial year, the Infrastructure Division received R15.5 million for Corporate Capex Investment projects. Key initiatives include solar upgrades at ARC-TSC and ARC-PHP, with the BTP solar project in progress. Farm equipment worth R3.7 million was procured to support research activities, and three generators were replaced at ARC-AP and ARC-OVR at a cost of R2.7 million. Six new Double Cab 4x4 Isuzu vehicles valued at R4.6 million were also acquired. Additional investments include office furniture for ARC-AP and ARC-CO (R436 593), effluent steriliser vessels for ARC-TAD (R700 000), and air-conditioning unit replacements for the Data Centre (R800,000.00, currently in RFQ stage).

CENTRE OF EXCELLENCE

The Department of Agriculture aims to establish a Centre of Excellence in Climate-Smart Agriculture (CSA) at Roodeplaats (ARC-VIMP and ARC-AP) to build capacity, enhance postgraduate education, generate new knowledge, upgrade facilities, strengthen collaborations, and promote sustainable agricultural practices. The Infrastructure Division's objectives include designing and constructing a state-of-the-art research facility, upgrading existing infrastructure, fostering collaborations, demonstrating integrated climate-smart production systems, and developing a science hub with a conference centre. High-level designs have been completed, with detailed designs in progress, and several projects, including solar solutions, security fencing, and water articulation, are advancing. Upgrades to training and conference centres and security systems have been completed, while work on sinkhole repairs and the Welcome Centre designs is underway.



CURRENT STATUS OF THE ARC FMD VACCINE PRODUCTION EFFORTS

After South Africa's sole FMD vaccine production facility at the ARC's Onderstepoort Campus ceased functioning due to a variety of reasons, the ARC undertook to develop a process to produce FMD vaccines for use in Southern Africa. These efforts have culminated in the establishment of the technical expertise and infrastructure to consistently produce FMD antigens at 20-liter scale using suspension production technologies. The FMD vaccine was registered on 20 May 2022, as a stock remedy under Act 36 of 1947. The registration certificate is valid for/renewable after 3 years. The ARC can now use its vaccine as part of DALRRD's FMD prevention programme. To that end, the ARC has completed the formulation of 20 000 doses of pentavalent FMD vaccines using the stockpiled antigen for supply to the DALRRD to be deployed at its discretion.

The ARC project team and some of the service providers are busy with the flow process design. The service providers and ARC project team have bi-weekly meetings on the project and tracking progress. The ARC FMD project team is thus in project planning and design as well as contract management and monitoring of the service providers for the FMD vaccine factory building project.

However, owing to the recurrent FMD outbreaks in the country and the rest of the SADC region, and the high likelihood of introduction of the O serotype into the country, there is an urgent need to supply the DALRRD with a local vaccine, to bring the spread of outbreaks under control as soon as possible. As an interim measure, whilst the new factory is being constructed, the ARC undertook to increase production from the current 20-liter to 200-liter scale. Permission was granted to proceed with the procurement of the necessary infrastructure to produce the vaccine at 200-liter scale. The process of procuring the required infrastructure is to be completed and commissioned for production mid-August 2025.

Efforts to scale the production process to an industrial scale and to build a facility to house the process are underway. A dedicated project manager to manage the design and construction processes of the project for the ARC was appointed.

RESEARCH HIGHLIGHTS LINKED TO PERFORMANCE



South Africa is richly endowed with natural resources to support crop and livestock production. About 71% of South Africa's agricultural land is only suitable for livestock farming. Accordingly, livestock agriculture is one of the key sectors in our economy and contributes almost half of the agricultural gross domestic product. Livestock production also plays an important role in supporting rural livelihoods and an important contributor to rural economic development. The work of the ARC-Animal Production (ARC-AP) campus is important for sustainable growth in the livestock sector.

The Animal Production conducts research and development in all areas of animal production and processing at its Irene main research campus and several satellite stations strategically located in different national agro-ecological regions. The mandate of the Campus is to develop and transfer new technologies and agricultural knowledge to ensure sustainable livestock production in the era of climate change and other emerging threats such as pandemics.

The Campus conducts its work throughout the entire value chain from primary production to tertiary agriculture and thus, its research is organised along the following focus areas:

- Animal Nutrition.
- Germplasm Conservation and Reproductive Biotechnology.
- Animal Breeding and Genetics.
- Meat Science and Technology.
- Range and Forage Sciences; and
- Quantitative and Qualitative Analysis.

The Campus also manages the National Animal Recording and Improvement Schemes (e.g. Beef, Dairy, Smallstock and Kaonafatso Ya Dikgomo) and the National Animal Database (INTERGIS) on behalf of the Department of Agriculture, Land Reform and Rural Development (DALRRD). Furthermore, the campus is also a custodian of herds and flocks of adapted indigenous livestock, national forage gene bank and animal biobank as well as national culture collection of beneficial gastrointestinal and food fermentation organisms. These national assets are key for new scientific discoveries of agricultural solutions for the livestock sector and the bioeconomy.

The work of the campus is aligned with the following outcomes of the ARC:

OUTCOME 1: Increased agricultural production and productivity

OUTCOME 4: A skilled and capable agriculture sector

OUTCOME 5: Enhanced resilience of agriculture

The Campus made significant progress in the delivery of the mandate of the ARC during the year under review. This section presents highlights of the key achievements of the Animal Production campus. These achievements contributed immensely towards addressing national imperatives such as food security as well as the triple national challenges facing South Africa e.g. inequality, poverty, and unemployment. The highlights are presented in accordance with the Outcomes of the ARC.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY

ANNUAL 2024 ARC NATIONAL MASTER DAIRYMAN AWARDS

The Annual ARC National Master Dairyman Awards ceremony was presented on Wednesday 13 November 2024 at Lanzerac Estate, Stellenbosch, Western Cape, as well as livestreamed. This prestigious competition, which celebrates outstanding performance by South Africa's top dairy farmers, is recognised by key stakeholders as a highlight of the country's agricultural calendar. Winners are awarded in various categories to acknowledge the country's most outstanding achievers in breeding genetically superior animals, using performance recording and performance testing as tools.

The 2024 awards event was hosted by Agri-Expo on behalf of the National Milk Recording and Improvement Scheme of the ARC, with support from strategic partners including the DoA, Nedbank, Nova Feeds, Agri-Expo, Semex South Africa, World Wide Sires South Africa, Meadow Feeds, Chemuniqué, Ecolab, and Axiota® Animal Health.

The awards ceremony included a panel discussion on sustainable youth development. Moderated by Breyton Mil-ford, General Manager of Agri-Expo, the panel featured Prof. Norman Maiwashe, General Manager: ARC-Animal Production, Mr Daneel Rossouw, Head of Sales: Agriculture at Nedbank, and Ms Marguerite van Niekerk, dairy science lecturer at Elsenburg Agricultural Training Institute. Prof. Maiwashe highlighted the importance of investing in skills and research, recommending that the industry should allocate more resources and work together to engage young people in agriculture through initiatives such as agricultural shows. Mrs Ben van Niekerk called for greater industry access for students, both during and after their studies, to help them gain practical experience.

Barry Schiever from Foundation Farm received the Large-scale Master Dairyman of the Year Award. Foundation Farm, which has around 2 000 cows in milk, began in

Weenen, KwaZulu-Natal, in 1990 with just 20 registered cows and has since expanded to two dairies which supply Nestlé, Douglasdale, and Dairyland.



Ms Joyene Isaacs (ARC Council Chairperson), Mr Barry and Ms Jane Schiever, 2024 ARC National Large-Scale Master Dairyman of the Year, and Dr Litha Magingxa (ARC President and CEO)

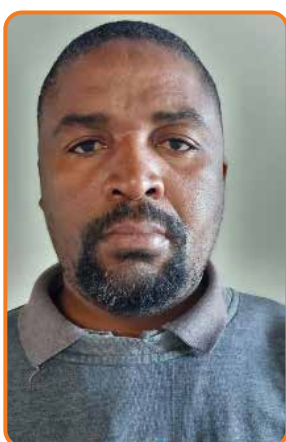


Mr Deon Engelbrecht (NOVA Feeds), Mr Pieter Steenkamp, 2024 ARC National Medium-Scale Dairyman of the Year, and Dr Andrew Magadlela (ARC Executive Manager: Animal Sciences and Biotechnology).

ANNUAL 2024 NATIONAL BEEF IMPROVEMENT SCHEME AWARDS

ARC presented its National Beef Performers Virtual Awards on 28 November 2024. This was the 46th instalment of the awards, the aim of which is to showcase the best of the best in beef cattle performance recording.

The awards presented seven categories sponsored by various agricultural companies and role-players and serve to honour those who have excelled in their breeding and production practices, as well as the mentoring of fellow producers. The DoA has been a key stakeholder in these awards since its inception and fulfilled that role once more this year. Plaas Media is the main sponsor of this award.



The winner of the 2024 ARC National Kaonafatso ya Dikgomo of the Year Award, sponsored by Plaas Media/Stockfarm, was Thamsanqa Mxokozeli from Riverside.

The winner of the ARC National Beef Cattle Improvement Herd of the Year 2024, sponsored by Plaas Media/Stockfarm, was EXSTEEN NGUNI'S & SANGAS of Hannes Eksteen.



OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

SEED GERMINATION RESPONSES TO TEMPERATURE AND OSMOTIC STRESS CONDITIONS IN BRACHIARIA FORAGE GRASSES

Brachiaria forages are known to be drought tolerant as mature plants, but no information about drought tolerance at the seed germination stage is currently available. This study aimed to determine the effect of different temperature and moisture conditions on the seed germination characteristics of five *Brachiaria* genotypes. *Brachiaria* seeds were germinated under constant temperatures of 5°C – 45°C at increments of 5°C. Within each temperature treatment, five osmotic treatments (0 MPa, –0.1 MPa, –0.3 MPa, –0.5 MPa, and –0.7 MPa) were applied, and germination was recorded daily for 20 days. The results showed that seed germination in all *Brachiaria* species was significantly negatively affected by osmotic stress as well as by high and low temperatures.

For all species, germination only occurred between 15°C and 40°C. Under optimum moisture conditions (0 MPa), the optimum germination temperatures for *B. humidicola* were 15°C to 35°C, for *B. brizantha* and *B. nigropedata*, were 15°C to 20°C, for *B. decumbens*, were 15°C to 25°C, and for the hybrid *Brachiaria* species, the optimum germination temperature was only 20°C. In all species, seed germination decreased as moisture conditions became more limiting. Only *B. humidicola* germinated optimally at a high temperature (35°C). At these temperatures, the species had more than 82% germination when moisture was not a limiting factor (0 MPa), but at low osmotic stress conditions (–0.1 MPa) at 30°C, the germination of this species decreased to 67%.

The results from this study indicate that the seed germination and early seedling establishment stages of *Brachiaria* grasses are only moderately tolerant to drought stress. Further work on early seedling responses to temperature and moisture stresses is needed to quantify early seedling responses to these stresses and to develop more detailed planting time guidelines for farmers.



Brachiaria grass research conducted at the ARC Roodeplaat farm.

KYD SUPPORT SCHEME ACCELERATED SMALLHOLDER FARMER DEVELOPMENT

The KyD farmer development scheme provided the much-needed support to smallholder livestock farmers in pursuit of driving transformation in the sector to improve active participation of farmers in formal agri-business. A total of 6 911 smallholder farmers, comprising 37% women and 10.5% youth, participated in the KyD farmers skills development initiatives for the year under review.



ARC technician demonstrates animal identification at Amadipini Amabili diptank in Kwa-Zulu Natal

In terms of market access opportunities created, the KyD hosted auctions in partnership with Provincial Departments of Agriculture (PDAs) in all the nine provinces. For example, a total of 1 496 farmers, comprising 24% women, sold 1 780 head of cattle, for R16.65 million and 1 398 goats, 188 sheep and 48 chickens for R3.63 million in 30 auctions.



Small stock auction at Gxaku in Eastern Cape.

Information dissemination was prioritised to capacitate farmers and key stakeholders in the industry. A total of 106 farmer's days conducted with total attendance of 11 554 farmers, comprising 32.6% women.



ARC technical staff giving a presentation to farmers on food processing at Goedgevonden in North West province.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

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The ARC-Onderstepoort Veterinary Research (ARC-OVR) Campus plays an important role in maintaining the health of our national herd and wildlife. It focuses on executing veterinary research to improve existing vaccines, diagnostic products and to develop new ones. It provides scientific support for the National and Provincial Veterinary Services in effective risk management for quality of life for all in South Africa. The ARC-OVR promotes animal health and welfare by providing an effective and efficient diagnostic service and producing vaccines against foot-and-mouth and tick-borne diseases.

ARC-OVR is the Collaborating Centre for the World Organisation for Animal Health (WOAH) (founded as the OIE) for the surveillance and control of animal diseases in Africa. The Campus hosts nine WOAH Reference Laboratories for economically important viral diseases namely: African Horse Sickness, Bluetongue, Foot-and-Mouth Disease, Lumpy Skin Disease, Rift Valley Fever, Rabies, Sheep pox and Goat pox, African Swine Fever, and Theileriosis. ARC-OVR is the WOAH recognised National Laboratory for Avian influenza and Newcastle disease and plays a key role in the One Health space through its diagnostic and research activities. One Health is an integrated, unifying approach to balance and optimise the health of people, animals, plants and the environment. It is important to prevent, predict, detect, and respond to global health threats. The One Health approach is particularly relevant for food and water safety, nutrition, the control of zoonoses (diseases that can spread between animals and humans, such as flu, rabies and Rift Valley fever), pollution management, and combating antimicrobial resistance (the emergence of microbes that are resistant to antibiotic therapy). The ARC-OVR is also the Food and Agriculture Organisation (FAO) of the United Nations Collaborating Centre on Emergency Preparedness for Transboundary Animal Diseases and Helminth-Anthelmintic Resistance and Biological Control for Africa. The Campus hosts three (3) FAO Reference

Laboratories namely: African swine fever, Foot-and-mouth disease and Vector and vector-borne diseases. ARC-OVR also houses the South African National Veterinary Museum, Gertrud Theiler Tick Museum, Museum of African Diseases and Pathology Museum.

The Government of South Africa, through the DALRRD and the DSI has mandated the ARC to manage and maintain National Public Goods Assets (NPGA). These provide important sources of genetic material for research and development, scientific reference, as well as rehabilitation of planting and breeding stock for national recovery from natural disasters. The current NPGA's are housed in the following units: Transboundary animal diseases, Blood vaccines production, Rabies laboratory, Diagnostic Services, and the National Insect Collections.

The work of the campus is aligned with the following outcomes of the ARC:

Outcome 4: A skilled and capable agriculture sector

Outcome 5: Enhanced resilience of agriculture

The Campus made significant progress in the delivery of the mandate of the ARC during the year under review. This annual report presents five highlights of the many key achievements of the Campus that contributed towards vaccine and diagnostic development; vaccine production; diagnostic and analytical services; addressing smallholder constraints in terms of access to resources such as technology, information and training; provide customised solutions to specific farmer groups, supporting enterprise growth and development leading to food security, sustainable profitability and competitiveness; and delivering training and information to farmers and extension personnel for skills development, better decision making and risk mitigation.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

NATIONAL COLLECTIONS: EPIDEMIOLOGICAL PATTERNS AND PROCESSES UNDERPINNING PATHOGEN TRANSMISSION IN HUMANS, WILDLIFE AND LIVESTOCK

Parasites are modulators of host populations and important drivers of biodiversity. Understanding host-parasite interactions is mandatory for successful conservation and disease management, while climate change lends further urgency to the evaluation of the effect of environmental factors on parasite communities and host-parasite networks. Taxonomic and systematic studies are pivotal to these ecological studies as they form the basis of any sound community analysis. Research conducted in the three National Collections housed in the Epidemiology, Parasites and Vectors Programme, the National Collection of Animal Helminths, the National Tick Collection, and the National Collection of Insects of Veterinary Importance, significantly contributes to benchmarking present biodiversity in Africa to enable us to measure future shifts in species distribution.

Descriptions and redescrptions of several helminth species (*Cylicospirura phiri*, *C. crocutae*, *C. pardalis*, *C. felinea*) from large African carnivores added to the taxonomic inventories of parasites, providing baseline data to recognise invasive species and document expansion patterns of native ones. Expertise seated in our National Collections contributed to the description of three new tick species (*Amblyomma pakhtunensis*, *Haemaphysalis eleonora*, *Ornithodoros pakistanensis*) in Asia and the Mediterranean. The resulting morphological and molecular findings will support future studies of these genera throughout their global distribution range, including Africa, where their representatives are disease vectors for, amongst others, heartwater, theileriosis and swine fever.

The National Collections are mandated to support the maintenance of the South African ecological infrastructure. They contribute to this aim via research targeted to facilitate a better understanding of epidemiological patterns and processes underpinning pathogen transmission in wildlife and livestock. Several studies on helminth communities in impalas, reedbuck and other African ungulates have advanced our knowledge on host traits and parasite

characteristics that increase the likelihood of parasite transmission and host switching, providing data that are pivotal to inform control strategies against parasitic diseases in wildlife and livestock. These studies highlighted the capacity of many parasite species of South African wildlife to switch to livestock, an important consideration when translocating animals as part of farming or conservation activities. Agricultural and conservation activities leading to changes in the environment and local composition of host populations can influence the abundance of parasite species and alter transmission dynamics between hosts and parasites. Our research highlighted both host sex and age as drivers of parasite communities, but effects are mediated by local environmental conditions, as environmental changes can affect exposure and transmission rates of parasites between suitable hosts. Human activities cause numerous environmental perturbations, including climate change. The above and ongoing studies will support informed predictions about the impact of these changes on the spread of parasites and help identify pathways for potential management and mitigation.

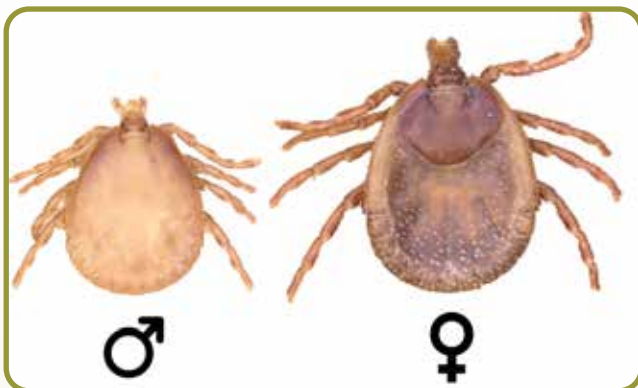
Culicoides biting midges are the main vectors of several viruses of veterinary importance, including bluetongue (BT) and African horse sickness (AHS). Their ability to adapt to a variety of habitats implies that environmental and anthropogenic changes could create new suitable habitats for these vectors, increasing the risk of introduction of these diseases into new areas. Modelling of bluetongue and African horse sickness vector distribution in the Western Cape in South Africa brought new insights into the spatial abundance and drivers of abundance of competent vectors of BT and AHS and helped to explore the relative importance of environmental and anthropogenic factors in a region of South Africa with frequent BT and AHS outbreaks. Data gained will inform mathematical models exploring disease outbreaks and facilitate further analysis of Culicoides-transmitted diseases in South Africa.

Tsetse flies (*Glossina spp.*) transmit African trypanosomiasis in humans ('sleeping sickness') and livestock ('nagana'). African animal trypanosomiasis in South Africa is currently limited to north-eastern KwaZulu-Natal, but habitat changes associated with commercial cattle farmers moving into game farming and game resorts have expanded the possible habitat for tsetse flies. To effectively design and monitor vector control operations, knowledge of the abundance, age structure, infection rates and host preferences of tsetse populations is fundamental. A study investigating these parameters in tsetse flies caught along the Kochi river in Koboko, in northwest Uganda revealed

a high proportion of bloodmeals from cattle, suggesting that insecticide treated cattle may prove to be an effective vector control strategy.



The Spotted hyena is host of Cylicospirura phiri (Nematoda: Spirocercidae). Below left: Anterior end of C. phiri. Below right: SEM of apical view of C. phiri.



A new tick species, Amblyomma pakhtunensis, previously thought to be Amblyomma javanense from the Himalayas. Cryptic species abound globally but also exist in South Africa.

ARC-OVR WOAHH RABIES REFERENCE LABORATORY HOSTED SADC DELEGATES FOR EASTERN NUCLEI RABIES LABORATORY NETWORK WORKSHOP AND CONDUCTED RABIES SAMPLING TRAINING AT MOKOPANE LABORATORY.

The ARC-OVR WOAHH Rabies Reference Laboratory hosted scientists from Eswatini, Lesotho, Malawi, Mozambique,

and Zimbabwe from the 10-12 March 2025. The WOAHH funded the workshop under the Southern Africa Eastern Nuclei Rabies Laboratory Network.

The objective of the workshop was to improve rabies surveillance, diagnostic capacity, and capabilities in the SADC region. The workshop focused on establishment of national rabies databases and continued analysis of data, quality assurance of laboratory diagnosis and improved knowledge of rabies epidemiology in the SADC region. Further, the workshop aimed at harmonisation of diagnostic techniques, such as direct Fluorescent Antibody Test (dFAT) across the region to meet the WOAHH diagnostic standards. Stronger compliance by national reference laboratories with WOAHH standards is essential for improving animal health, welfare, and veterinary public health at the national, regional and international level.

The establishment of such a network is timely and highly relevant if human dog-mediated rabies deaths are to be eliminated by 2030 under the initiative of the World Health Organisation. This stepwise approach will provide the foundation for harmonisation and standardisation of rabies routine diagnostics and data analysis across the SADC region by implementing WOAHH standards and strengthening inter-laboratory and international cooperation. Furthermore, the interaction through this network is aimed at the generation of mutual transparency, trust and long-term engagements among member states.



ARC trainers and SADC delegates that attended the eastern nuclei rabies laboratory network workshop.

The ARC WOAHH reference laboratory for rabies personnel travelled to the Mokopane Veterinary Laboratory in Limpopo province to conduct training on a simplified rabies sampling method (Occipital foramen route for brain sampling) as part of the activities for Department of Agriculture.

The project's main objective is to establish additional rabies diagnostic capacity in the Eastern Cape and Limpopo provinces respectively. Three state veterinarians and

nineteen technicians participated in a hands-on practical where a demonstration of the occipital method was done before each participant was given their own sheep head to practice on (train-a-trainer method). This is a major consideration in the call for improving rabies diagnostics in the areas where the disease is most prevalent, as well as equipping laboratories in more remote areas to sample and package samples correctly before sending them to approved rabies diagnostic laboratories.



WOAH Rabies reference laboratory trainers and Makopane Veterinary Laboratory, Limpopo, staff that attended training on a simplified rabies sampling method.

TANZANIAN VETERINARY LABORATORY AGENCY (TVLA) TECHNOLOGY TRANSFER AND CAPACITY BUILDING UNDER A WOA TWINNING PROJECT.

In this twinning project the ARC is performing the role of parent institution while TVLA is a candidate laboratory. The project will create a platform for collaboration between the two institutions. In the first four week visit the delegates received training on Cell culturing techniques, Virus isolation – both tissue culture and embryonated chicken eggs, Serological methods for the diagnosis of Brucella and Brucella isolation, identification and serotyping, DNA extraction and PCR. This partnership will nurture future mutual benefits from joint research projects. The ARC will also gain access to samples for Sheep and Goat Pox for diagnostics and research projects. The ultimate objective of TVLA is to become WOA Reference Laboratory for Bluetongue (BT), Sheep and Goat Pox (SGP) and Brucellosis.



The ARC staff and TVLA delegates.

OUTCOME 5: ENHANCED RESILIENCE OF AGRICULTURE

PROTECTIVE EFFECTS OF WATER HYACINTH PLANT EXTRACTS AGAINST DIETARY MUTAGENS

Mycotoxin contamination of agricultural products is of important concern in the agricultural and food industry. These toxins produced by spoilage fungi are carcinogenic, genotoxic, teratogenic, and immunosuppressive when consumed by humans and animals. They are of serious public and veterinary health concern. Mycotoxins account for huge economic losses and threaten food safety. Research has shown that plant extracts contain compounds that can mitigate the effects of mycotoxins in humans and animals when supplemented through diet. Some of these compounds include antigenotoxic, antimutagen, anticancer, antitumor and antioxidant as well as anti-inflammatory agents which fight against diseases.

This project aimed to evaluate water hyacinth species from different water bodies for its potential as animal feed supplement or additive and medicinal uses in animal health against mycotoxin-induced toxicity. The research objectives include screening and evaluation of the nutritional content, phytochemical content, antioxidant, antimicrobial and anti-inflammatory activities of the water hyacinth plant extracts collected from different water bodies from different provinces of South Africa; also, to investigate toxicity, genotoxicity and antigenotoxicity of water hyacinth plant extracts against selected mycotoxins.

The researchers at ARC Toxicology investigated the chemical and nutritional composition and antioxidant properties of water hyacinth species. The results showed that the water hyacinth plant species possess essential nutritional and phytochemical contents as well as the antioxidant properties. The toxicity studies of water hyacinth against genotoxic mycotoxin will be carried out this financial year. This study will positively contribute to food safety and security as well as improved animal feed. The health risks associated with mycotoxin contamination of food and feed will be reduced since the plant extract will detoxify and render the toxin less to non-toxic. The outcomes of this research will alleviate poverty and hunger because the use of water hyacinth species for food/feed supplement production and medicinal purpose will create more opportunities for the communities living near the water bodies affected by these weeds due to its abundant availability.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

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POST-GRADUATE DEGREES

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Tlaka, K. 2024. Evaluation of a DAS-ELISA for quantification of foot-and-mouth disease virus 146S antigen during vaccine preparation. Master of Science (Veterinary Tropical Diseases), University of Pretoria.



BIOTECHNOLOGY PLATFORM

The mandate of the ARC-BTP is to create high-throughput resources and technologies required for application in genomics, metagenomics- or next generation sequencing based on diagnostic applications, quantitative genetics, genomics assisted selection and breeding, plant phenomics and bioinformatics to support participants in the agricultural sector, i.e., from small smallholder and commercial producers, to seed companies, food processing facilities and universities working in associated fields.

The ARC-BTP is established as both a research and service driven division, providing an environment in which highly skilled researchers and postgraduate students can be hosted and trained to undertake world class research paralleled with provision of genomics and bioinformatics services to agriculture and other sectors.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 3: IMPROVED NUTRITIONAL VALUE, QUALITY AND SAFETY OF AGRICULTURAL PRODUCTS.

MERGING ADVANCED GENOMICS TOOLS WITH ECOLOGICAL NICHE MODELLING AS A POTENTIAL TOOL TO SUPPORT CONSERVATION STRATEGIES IN SOUTH AFRICAN CHICKEN PRODUCTION

Climate change and the growing market preference for high-performing breeds with shorter production times threatens and undermine sustainable use, improvement and conservation of locally adapted chicken populations in South Africa. Conservation efforts not only preserves biodiversity but could also potentially strengthens the resilience of rural livelihoods in the face of climate and economic pressures. The last conservation effort for indigenous chickens in South Africa during the early 1990s, focused on Naked Neck, Lebowa-Venda, Ovambo, and Potchefstroom Koekoek breeds. New conservation hotspots of adaptable chickens should be identified, and we propose combining ecological niche modelling and

landscape genomics approaches as additional tools to support these efforts. Village-based chickens are the ideal model in that they are extensively management with minimal buffer from environmental pressures. Several villages Limpopo and KwaZulu-Natal were targeted for various agro-ecological dynamics. The study investigated the population effective size (N_e), environmental factors affecting the genetic structure of indigenous chickens and modelled environmental suitability across South Africa. A total of 244 village chickens from rural areas in the Capricorn ($n = 85$) and Sekhukhune ($n = 113$) Districts of Limpopo province and the Harry Gwala ($n = 21$) and uMzinyathi ($n = 25$) Districts of KwaZulu-Natal province, were genotyped using the Illumina 60K BeadChip. The conservation flock, comprised of the Ovambo, Potchefstroom Koekoek, Venda, Naked Neck, New Hampshire, White Leghorn, and White Plymouth Rock, at the Agricultural Research Council, Animal Production, Poultry Breeding Unit were used as the reference populations and a representative of flocks managed under conservation.

The effective population size (N_e) in village-based chickens and conservation flocks ranged from 18 to 53 and 26 to 38 at 12 generations ago, respectively. These low N_e levels can be caused by small founder animals and poor management of diversity within the breeding flock. This highlights the need to employ genomics technology in monitoring conservation flocks over time to make informed breeding discussions and strategies. The Principal Component Analysis 1 and 2 explained 5.64% of the total

variation, which resulted in five clusters with the Venda, Naked Neck, and White Leghorn being separated from the village-based chickens. The Ovambo, New Hampshire, and White Plymouth Rock breeds had genetic backgrounds similar to those of the village populations. This could be attributed to the introduction and continuous use of New Hampshire and White Plymouth Rock in small-scale chicken production, which contributed to the admixture seen in these breeds. Uncorrelated environmental factors (≥ 0.6) were selected for which included minimum temperatures of coldest month (BIO6), minimum temperature of wettest quarter (BIO8), mean temperature of coldest quarter (BIO11), elevation, soil cation exchange capacity, soil clay content, soil organic carbon content, soil pH, soil silt content and solar radiation of seventh month were used in the downstream analysis. The first three redundancy analysis (RDA) axes captured 46.8% of the total genetic variation used to detect significant outlier SNPs. A total of 386 outlier SNPs were identified as being associated with environmental variables, with BIO11 (mean temperature of the coldest quarter) and BIO6 (minimum temperature of the coldest month) showing the strongest associations. Using ecological niche modelling, village-based chickens from Limpopo province, in Dipakakeng, Mgababa, and Podu villages were observed to have intermediate to poor predicted suitability across South Africa. These findings suggest tolerance to local environmental stressors. In KwaZulu-Natal, chickens from Nhlonga village had a broader suitability distribution for existence and fitness, covering the Northern Cape, Limpopo, and Eastern Cape provinces with elevation and minimum temperature of coldest month (BIO6) being important variables in mapping suitability. This implies that village chickens from the Nhlonga village will be able to adapt to these areas and reach their peak levels of productivity and environmental fitness.

Knowledge generated in this study can aid in *in situ* and *ex situ* conservation efforts of village-based chicken populations as it describes unique genetic populations in village-based chickens and highlight impact of “improvement programs” by means of introducing exotic breeds. This study further characterises their genetic potential by highlighting genomic regions involved in environmental adaptation.

The project-built capacity at the Biotechnology Platform and the genotyping data was generated within the BTP’s Analytical Core Facility, thus demonstrating the central role the Unit plays as a cross-cutting support and in the conservation mandates of the ARC and the Department of Agriculture.

THE BEEF GENOMICS PROGRAM

The Beef Genomics Program Phase II (BGP2) is a government, industry and academic consortium working together to improve the quality of South Africa’s beef cattle. The Program’s objective is to maintain the competitive relevance of the Southern African beef industry through genomic-assisted breed improvements in both the commercial and informal sectors. The intended outcomes include, improving the internal rate of return (IRR) for the producer and the genetics of smallholder farmers through implementing genomic selection and animal identification in the informal sector through the ARC’s DoA-funded Kaonafatso ya Dikgomo (KyD) animal improvement scheme. The program also aims to enhanced cattle databases and to enabling Breed Societies to establish and/or maintain relative reference populations linked to phenotypes. This will assist with enhancing the flow of superior genetics and information to smallholder farmers; while also developing new or improved genetic testing technologies to services the region. This second phase of the Program started in April 2024, with the aim to genotype more than 50 000 animals by 2027.

The project is funded by both government (TIA) and the beef industry via the Livestock Registering Federation (LRF) and SA Stud Book (SA SB), which supports 30 cattle stud breed societies within the program. SA Stud Book and LRF are leaders in managing and providing services to stud breed societies, the cornerstones for quality beef production in the region. Their close relationship with breed societies and stakeholders allows the BGP2 access to samples, expertise, and knowledge in the beef breeding sector. These expertise are complemented by the ARC’s Animal Production campus (ARC-AP) with scientists who are experts in the field of animal genetics and genomics, breeding, and reproduction. Furthermore, ARC-AP is not only the custodian of the Intergis database, but also successfully implemented the Kaonafatso ya Dikgomo (KyD) scheme which focuses on the socio-economic development of smallholder cattle farmers. KyD is a special-purpose vehicle aimed at accelerating the participation of commercial-oriented smallholder livestock producers into the mainstream livestock industry. KyD is an important aspect of BGP2 for ensuring the outcomes of the BGP2 is fulfilled. The ARC is a leading genomics platform, that houses the latest genomics technologies essential for the BGP2. Members of the ARC are experienced in the use of genomic technologies to enhance research and to provide services to the industry. The ARC, together with Unistel, a local commercial genotyping service provider, is genotyping most of the animals, all locally. The universities involved in the Consortium provide access to research programmes, expertise, knowledge and student training, with the RMIS increasing the partners across the beef value chain.

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

COLLABORATIVE APPROACH TO ADDRESS GOAT KID MORTALITY IN BUFFALO CITY (EASTERN CAPE) AND UMKHANYAKUDE (KWAZULU-NATAL): INSIGHTS FROM THE FIELD

Eastern Cape and KwaZulu-Natal are one of the major indigenous goat producing provinces in South Africa, with goat farming playing more of a role than just sustaining a household's protein requirements and livelihood but also being a living thread linking communities of today with their heritage and traditions of the past. Mortality rates, especially during pre-weaning ages, continues to threaten production and market competitiveness of the community level producer. The causal factors of these pre-weaning mortalities remain either largely unresearched and misunderstood, thereby leading to poorly designed intervention efforts which severely limits their effectiveness and impact. The ARC and Department of Agriculture have taken meaningful steps to better understand and address the community goat farmers' challenges by listening to them through four focus group discussions and questionnaire surveys. Four focus group discussions were used to establish breeding objectives and farmer challenges to goat farming. These discussions were held at two sites in Ncera villages (Eastern Cape) and Ophande village (KwaZulu-Natal) as these were the target study and project sites.



An ARC student conducting an interview with an elderly small-holder goat farmer from Ncera, Eastern Cape.

In addition, 195 of these goat owners from the same region were interviewed using a structured questionnaire survey. The aim of this survey was to better understand the farmer's perceptions on goat kid mortality causes. Diseases such as heartwater, diarrhoea, and internal parasites were cited by 60% of respondents, while 30% linked deaths to nutritional issues giving insufficient milk production in does as one of the key factors. Additional concerns included inadequate shelter, predation, poor animal and herd management practices as well as livestock theft. Farmers also voiced frustration over limited access to veterinary care and emphasised the urgent need for more education on effective kid care and herd health. While strategies can be designed around these producers' perceptions, a key limiting factor was the lack of proper animal identification and herd record keeping, therefore the burden could not be quantified, and no accurate evidence-based conclusions could be made. Records are essential for traceability that is required for both herd management and for any investigation.



ARC researchers with representatives from South African Police Service: Stock Theft Unit, local Veterinary Services, and community leaders.

The ARC, in collaboration with the KyD team from the Eastern Cape and KwaZulu-Natal facilitated animal identification by designing a goat recording book which farmers can use to record animals in. These books are also be used to capture disease or other animal specific incidences in, thereby enabling the research team to quantify the burdens on individual animals, identify mortality causes and investigate underlying dynamics. This collaboration allowed more than 3 000 goats to be tagged and recorded in 250 record books that were distributed within the participating communities.



Focus group discussion to establish farmer's breeding objectives for indigenous goats in Ophande village, Jozini in KwaZulu-Natal.

The project also identified farmer training as a key method to upskill and support farmers. Several farmers' days were therefore hosted with the main discussion topics being breeding, animal selection and record keeping, the use of the FAMACHA test (i.e. gastro-intestinal parasite level test), as well as stock theft with the support of South African Police Services. Although the implementation is in its early stages, one thing is clear: Tackling goat kid mortality requires more than technical solutions, it calls for collaboration, local knowledge, and sustained support to ensure healthier herds and more resilient farming communities. The KyD program has been instrumental in the small successes of community-level research by opening opportunities of targeted research.

EXPANDING GENOMIC ASSESSMENT CAPACITY AT THE BIOTECHNOLOGY THROUGH THE ACQUISITION OF AN AFFYMETRIX'S GENETITAN™ SYSTEM

The ARC runs several high-level technologies to assist with genomic assessment of crops and livestock, including sequencing platforms like the MGI's G400 next generation sequencer (NGS) and Illumina's genotyping (single nucleotide polymorphism (SNP) assessment) system, the iScan. In 2024/25, the ARC made a strategic infrastructure investment with the procurement and commissioning of the Affymetrix GeneTitan™ multi-channel instrument, which significantly enhances SNP genotyping services, both in capacity and scope. Though our existing platform continues to deliver excellent high-resolution data, e.g. Beef Genomics Program Phase 2 (BGP2), there are limitations on platform-specific arrays, i.e. many commercial arrays are only available for a narrow range of species. The growing demand from both internal

and external clients, highlighted the need for a platform capable of handling a larger species diversity at scale. The GeneTitan system, in contrast, leverages Axiom™ SNP arrays developed by Thermo Fisher Scientific, which offer a broader portfolio of "off-the-shelf SNP panels", covering numerous species, including livestock, crops, wildlife, and non-model organisms. The GeneTitan system addresses a longstanding limitation within the genomics service pipeline by increasing the species' genotyping scope, with the system supporting genotyping across several species, many of which were previously not available due to cost or technical constraints. The system supports the following areas currently:

- Animal species such as equine, salmon, poultry, rabbit, turkey, wildlife species, companion animals, etc.
- Plant species such as rye, apple, soybean, barley, strawberries, cotton, indigenous crops, etc.
- Microbial species are also covered with selected bacterial and viral panels for epidemiological studies available.



Affymetrix GeneTitan equipment setup at BTP

The system does not only increase access to commercial species-specific genotyping array offerings but also assists with a reduction project turnaround times and costs. This is achieved by running of 96 samples in parallel, with minimal hands-on time. It further strengthens the national capacity for genotyping, especially in breeding programs by offering internationally available technologies and services locally. This will enable the participation of local researchers in international collaborative consortia with local laboratory expertise supporting efforts. Local researchers will therefore benefit by accessing validated, high throughput genotyping for agricultural and uncommon species, while reducing sample export and logistics costs. The system also allows custom genotyping array development, which may be tailored to local breeding objectives, or even specific breeds. The system offers a competitive service alternative to private providers, especially for underrepresented species in both the research and industry areas.



AxiomTM 96 Array plate

Installation, commissioning and training of the GeneTitan system was recently completed, with rollout to partners envisioned in Q3 of 2025, after bioinformatic pipeline development and training on the Axiom data analysis tools are concluded. This will enable the ARC to offer not only genotyping but also data interpretation support, thereby closing the loop from raw sample to actionable insight, ensuring we deliver true end-to-end genomics solutions.

This dramatically expands the ARC's capacity to serve breeding programs, genetic resource conservation projects, and comparative genomics research across multiple sectors. By broadening the species, we can serve and deepen the level of support we provide, this investment affirms our commitment to being a leading public genomics services provider. It also lays the foundation for deeper collaboration, innovation, and capacity building in the years ahead.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following

JOURNAL ARTICLES

- Da Silva, A., Ahbara, A., Baazaoui, I., Jemaa, S.B., Cao, Y., Ciani, E., Dzomba, E.F., Evans, L., Gootwine, E., Hanotte, O., Harris, L., Li, M.H., Mastrangelo, S., Missohou, A., Molotsi, A., Muchadeyi, F.C., Mwacharo, J.M., Tallet, G., Vernus, P., Hall, S.J.G., Lenstra, J.A., 2024. History and genetic diversity of African sheep: Contrasting phenotypic and genomic diversity. *Animal Genetics*. DOI: 10.1111/age.13488
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- Sharaf, A., Nesengani, L.T., Hayah, I., Kuja, J.O., Mdyogolo, S., Omotoriogun, T.C., Odogwu, B.A., Beedessee, G., Smith, R.M., Barakat, A., Moila, A.M., Hamouchi, A.E., Benkahla, A., Boukteb, A., Elmouhtadi, A., Mafwila, A.L., Abushady, A.M., Elsherif, A.K., Ahmed, B., Wairuri, C., Ndiribe, C.C., Ebuzome, C., Kinnear, C.J., Ndlovu, D., Iraqi, D., Fahime, E.E., Assefa, E., Ouardi, F., Belharfi, F.Z., Tmimi, F.Z., Markey, F.B., Radouani, F., Zeukeng, F., Mvumbi, G.L., Ganesan, H., Hanachi, M., Nigussie, H., Charoute, H., Benamri, I., Mkedder, I., Haddadi, I., Meftah-Kadmiri, I., Mubiru, J.F., Entfellner, J.K.D., Rokani, J.B., Ogwang, J., Daiga, J.B., Omumbo, J., Ideozu, J.E., Errafii, K., Labuschagne, K., Komi, K.K., Tonfack, L.B., Hadjeras, L., Ramantswana, M., Chaisi, M., Botes, M.W., Kilian, M., Kvas, M., Melloul, M., Chaouch, M., Khyatti, M., Abdo, M., Phasha-Muchemenye, M., Hijri, M., Mediouni, M.R., Hassan, M.A., Piro, M., Mwale, M., Maaloum, M., Mavhunga, M., Olivier, N.A., Aminou, O., Arbani, O., Souiai, O., Djocgoue, P.F., Mentag, R., Zipfel, R.D., Tata, R.B., Megnekou, R., Muzemil, S., Paez, S., Salifu, S.P., Kagame, S.P., Selka, S., Edwards, S., Gaouar, S.B.S., Reda, S.R.A., Fellahi, S., Khayi, S., Ayed, S., Madisha, T., Sahil, T., Udensi, O.G., Ras, V., Ezebuiro, V., Duru, V.C., David, X., Geberemichael, Y., Tchiehoua, Y.H., Munglloo-Dilmohamud, Z., Chen, Z., Happi, C., Kariuki, T., Ziyomo, C., Djikeng, A., Badaoui, B., Mapholi, A., Muigai, A., Osuji, J.O. & Ebenezer, T.E.. 2024. Establishing African genomics and bioinformatics programs through annual regional workshops. *Nature Genetics*, <https://doi.org/10.1038/s41588-024-01807-6>.
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POST-GRADUATE DEGREES

Gcabashe, S.L. 2024. "Unravelling Genes Associated with Coat Colour and Coat Colour Patterns in indigenous South African Meat-type Goats". Master of Science (Genetics), University of KwaZulu-Natal.

Mapfumo, P. 2024. "In-field climatic factors contributing to sunflower development and health across planting dates". Doctor of Philosophy (Plant Science), University of Pretoria.

Mgaga, A. 2024. "Analysis of the Gut Microbiome Sheds Insights into Breed Resilience and the Challenges of Antimicrobial Resistance in Dohne Merino Sheep". Master of Science (Genetics), University of KwaZulu-Natal

Mogano, R.R. 2024. "Modelling Environmental Suitability and Estimating Effective Population Size of South African Indigenous Chickens: Implication of Conservation Master of Agricultural Science (Animal Sciences), Tshwane University of Technology.

Njilo, A. 2024. "Genomic Analysis of Swakara Sheep Sub-populations". Master of Science (Genetics), University of KwaZulu-Natal.

Rammuki, B. 2024. "Molecular characterisation of RNA interference in *Fusarium circinatum*". MSc (in Genetics), University of Pretoria.





NATURAL RESOURCES AND ENGINEERING

Natural Resources and Engineering (ARC-NRE) is a newly-created division comprising the Soil, Climate and Water (ARC-SCW) and Agricultural Engineering (ARC-AE) Campuses. It has the responsibility for areas of research and innovation that are crosscutting over the whole ARC and can provide advanced research and technologies that are applicable across the full range of crops and animal systems. It creates opportunities for new interactions, approaches to training and development, and the application of a wide range of new technologies within the full value chain of different commodities. In addition, it provides a basis for the growth and development of a new generation of research staff suited to future needs of the ARC. It also provides a culture of continuous skills development based on a large postgraduate programme and a strong collaborative culture.

The ARC-NRE division follows a holistic approach towards natural resources utilisation and conservation. It promotes and collaborates in multi-institutional, cross-sectoral, bilateral and multilateral research teams. Its strength lies in the ability to provide innovative solutions to clients with respect to sustainable land use, conservation of the natural resources and environmental quality.

The division develops and applies agricultural engineering technologies that contribute to higher yields, increased income and lower input costs for agriculture and related industries in a sustainable way. It also develops and increases the efficient and sustainable utilisation of natural resources and human capital in the field of agricultural engineering technology.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY

GREEN SYNTHESIS OF NANOFERTILISERS FOR CROP GROWTH

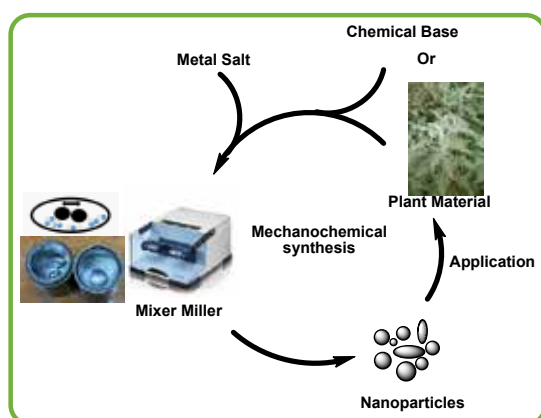
The ARC Microbiology and Environmental Biotechnology Research Group conducted a 3-year project with the aim of developing nanofertilisers using a green approach for increasing vegetable crop yield and quality, as well as to determine the effect of applying such nanofertilisers on soil quality. The study was supported by a grant from the National Research Foundation (NRF) Thuthuka funding instrument.

Artemisia afra plant extract and raw plant material was used to synthesise metal oxide nanoparticles, with potential as nanofertilisers. Hot plate extraction methods were used and optimised for extraction of phytochemicals.

To optimise the synthesis method for high quality iron, zinc and magnesium nanoparticles, two methods were tested, namely solid- and liquid-state synthesis. The synthesised nanoparticles were assessed using various characterization techniques including UV-Visible Spectroscopy, X-ray diffraction (XRD), Fourier Transformed Infrared Spectroscopy (FTIR), Thermogravimetric analysis (TGA), Brunauer-Emmett-Teller (BET), Scanning/Transmission Electron Microscopy and Energy Dispersive Spectroscopy (SEM/TEM/EDS). Finally, the effect of the synthesised nanoparticles on physicochemical and microbiological properties of plants and soil was evaluated in a pot trial.

Overall, the project resulted in method development for the facile, eco-friendly synthesis of nanoparticles, with potential as nanofertilisers. Solid-state mechanosynthesis methods were effectively employed for nanoparticle synthesis and the synthesised nanoparticles were shown to promote plant growth. Moreover, the impacts of the synthesised nanoparticles on soil health and microbiome dynamics in the soil and plant were established. Collectively, the findings of the study are anticipated to contribute in the trajectory towards the adoption of nanofertilisers in precision agriculture.

Six research papers emanated from this study. In addition, one student obtained their MSc degree whilst another is in the process of finalising their PhD.

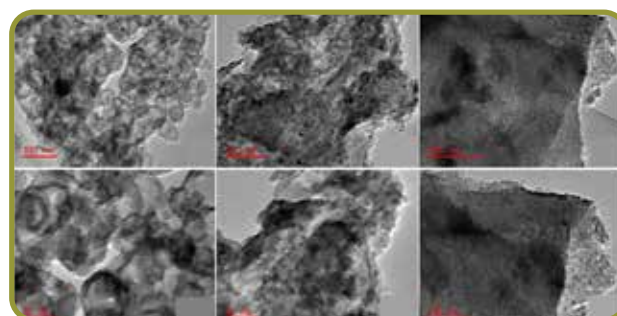


Mechanosynthesis of nanofertilisers

OUTCOME 2: SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES

MAPPING WOODY INVASIVE ALIEN PLANT SPECIES AND THEIR IMPACTS IN STRATEGIC WATER SOURCE AREAS (MAPWAPS)

South Africa is increasingly challenged by water scarcity, with invasive alien plants (IAPs) exacerbating the problem by consuming significant water resources, degrading ecosystems, and increasing fire risks. To address the pressing need for reliable, fine-scale spatial data on IAPs to support ecosystem restoration and water resource management, ARC-NRE in partnership with Stellenbosch University conducted a 3-year project titled “MapWAPS”, funded by the Water Research Commission (WRC). The aim of the project was to use freely available satellite imagery and cloud computing to map alien trees in key strategic water source areas (SWSAs) that do not have recent information on biological invasions and their impact. The occurrence, distribution and density (percentage cover) of target woody IAPs were mapped in the Luvuvhu, Sabie-Crocodile, Tugela and uMzimvubu catchments, each of which is critical for South Africa’s surface water supply. Other objectives were to estimate the age of the identified alien plant stands, to quantify evapotranspiration as a proxy for water use, comparing IAPs to native vegetation using remote sensing, and to determine their water resource impacts.



Transmission electron microscopy images of ZnO nanoparticles

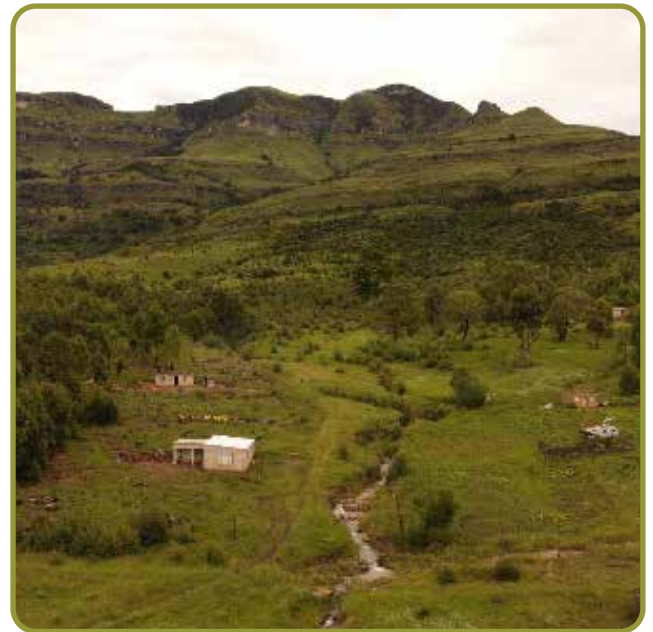
The MapWAPS project closely aligned with key national policies and strategies which recognise SWSAs as high-priority areas needing protection from invasive alien plants due to their disproportionate contribution to national water yield. It also aligned with strategies that emphasise the importance of ecological restoration and control of IAPs to conserve biodiversity and calls for better data and spatial targeting to improve alien plant management. Furthermore, the project was in line with the UN Decade on Ecosystem Restoration (2021-2030), adopted by South Africa, which focuses on restoration goals and climate resilience.

The project had a strong stakeholder component, engaging a diverse range of participants from its inception through to implementation. Key stakeholders included government and regulatory bodies such as the Department of Water and Sanitation (DWS), Department of Forestry, Fisheries and the Environment (DFFE), WRC and regional Catchment Management Agencies. Other academic partners included the University of Venda, University of Mpumalanga, Rhodes University and the University of the Witwatersrand. Environmental and conservation organisations like the South African National Biodiversity Institute (SANBI), World Wide Fund for Nature South Africa (WWF-SA), WildTrust, BirdLife SA, Environmental Rural Solutions (ERS), South African Environmental Observation Network (SAEON) and Conservation South Africa (CSA) were also involved, alongside forestry representatives such as SAFCOL, SAPPI, the MTO Group, and private farmers. Community-based organisations, such as the Upper Thukela Partnership and uMzimvubu Catchment Partnership, and local municipalities from Limpopo, Mpumalanga, KwaZulu-Natal and the Eastern Cape were actively engaged through workshops, training sessions, fieldwork support, and data validation on alien tree mapping: taxa selection and access.

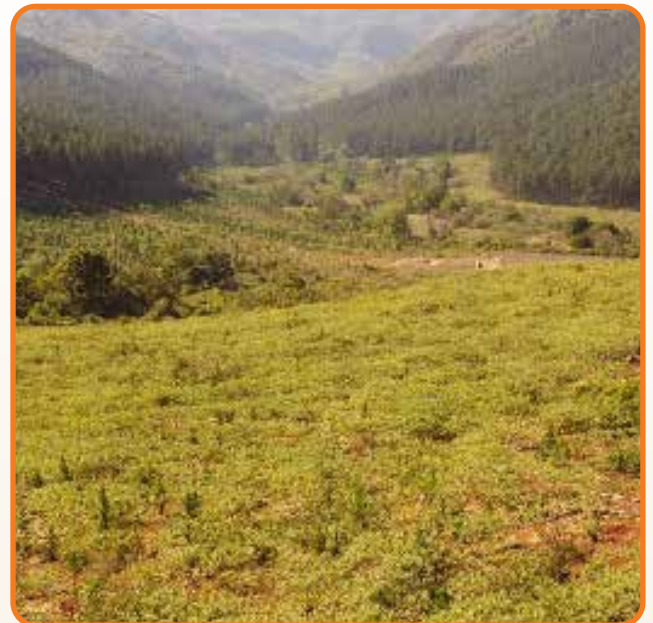
The MapWAPS project delivered significant positive impacts across ecological, institutional and community spheres. It produced high-resolution (10 m) maps of invasive alien plant occurrence across four strategic water source areas, revealing alien plant cover ranging from 2% to 23%, primarily comprising gum, pine and wattle. These maps can be freely accessed as a Google Earth Engine app as follows:

- Luvuvhu Catchment: <https://mapwaps-luvuvhu.projects.earthengine.app/view/mapwaps-luvuvhu>
- Sabie-Crocodile Catchment: <https://mapwaps-sabiecroc.projects.earthengine.app/view/mapwaps-sabiecroc>
- Tugela Catchment: <https://mapwaps-tugela.projects.earthengine.app/view/mapwaps-tugela>
- uMzimvubu Catchment: <https://mapwaps-umzimvubu.projects.earthengine.app/view/mapwaps-umzimvubu>

Furthermore, the project introduced innovation by integrating machine learning (Random Forest) with cloud-based platforms like Google Earth Engine to generate scalable, cost-effective mapping tools. It also trialled methods for estimating vegetation age and density using MODIS data, contributing to methodological development despite some limitations. Freely available evapotranspiration satellite-derived products, such as WaPOR, were also leveraged to produce a tailor-made ensemble model for mapping evapotranspiration at a regional scale across various bioclimates in South Africa. Ecologically, project findings support restoration actions that could recover millions of cubic metres of water annually, particularly through clearing invasive alien plants. The project also advocates for the removal of plantation trees growing in riparian zones located within commercial forestry areas to reduce water use while also enhance biodiversity.



A mixture of Gum and Black Wattle invading grasslands around the Busingatha community in the Tugela Catchment



Dense Bugweed infestation growing between forestry plantation compartments in the Luvuvhu Catchment

WOODY COVER AND BUSH ENCROACHMENT MONITORING USING DRONE IMAGERY TECHNOLOGIES

Bush encroachment describes a natural process characterised by an increase in the density and spatial expansion of woody plants such as shrubs and trees to the detriment of the herbaceous layer which includes grasses. The process is driven by shifts in fire regimes, herbivory, rising atmospheric CO₂ levels and climate change, and poses a significant threat to South Africa's rangelands, biodiversity and ecosystem services. The species responsible for most of the bush encroachment in this country are six legumes, namely *Vachellia hebeclada*, *V. karroo*, *V. nilotica*, *V. tortilis*, *Senegalia mellifera* and *Dichrostachys cinerea*, as well as *Rhigozum trichotomum* and *Tarchonanthus camphoratus* in the Northern Cape. Relevant national policy and strategic frameworks for bush encroachment include the Conservation of Agricultural Resources Act (CARA) and the National Environmental Management Act (NEMA). CARA provides the legal framework for interventions aimed at managing and reversing bush encroachment, while NEMA is the overarching framework for environmental management in South Africa, promoting sustainable development and the protection of the environment. The government's recognition of bush encroachment as a significant problem implies a need for effective mapping and management tools.

A project was funded by the Department of Agriculture (DoA) with the aim of evaluating woody cover and bush encroachment patterns across various land use systems in the Waterberg District of Limpopo using high-resolution drone imagery and multispectral analysis. The stakeholders targeted by the project include cattle farming communities and chiefs in communal lands, commercial cattle farmers, game farmers, extension officers, provincial and national government. Suitable experimental plots were identified and a drone survey was conducted using a five band (blue, green, red, red-edge and near infrared) multispectral camera. A habitat survey was also conducted within a representative area of the drone survey plot, including measurements of the soil carbon stocks to a depth of 30 cm and ancillary soil variables that influence soil carbon sequestration.

A DJI Matrice 600 drone equipped with a MicaSense RedEdge-MX multispectral camera was used to survey 54 sample plots stratified by land use type (communal, game and livestock farms) and tree density (low, moderate and high). The survey generated very high-resolution drone imagery, which was processed to derive canopy height models, vegetation indices (e.g. Normalised Difference Vegetation Index (NDVI)) and woody cover maps. Random Forest classification algorithms were employed to classify woody cover, producing accuracy levels consistently above 90%.



DJI Matrice 600 drone at Stratford study site

Different tree species were found at different sites in the study area. These included the most problematic encroaching species that cause rangeland degradation. *Dichrostachys cinerea* and *Senegalia mellifera* were found to be affecting the grazing capacity in most farms under different land use systems.



Roodepan Phiri site with Dichrostachys cinerea species dominating

Results of bush encroachment mapping showed significant variation in woody vegetation structure and density across sites, with game farms generally exhibiting higher and denser tree canopies compared to communal lands. This spatial heterogeneity is attributed to land management practices and historical land use pressures. Sites like Fairlawn and Mountjoy showed particularly high tree density and taller canopy heights, indicative of advanced stages of encroachment.

Soil analysis results showed that soil organic carbon (SOC) content was highest in medium density under livestock commercial land, relatively high in medium density under conservation and low in communal areas. The higher SOC level in conservation areas is due to minimal disturbance and better vegetative cover, while communal lands subjected to grazing pressures and limited management had lower SOC contents.

The study confirmed the effectiveness of the DJI Matrice 600 drone equipped with a MicaSense RedEdge multispectral camera in capturing fine-scale vegetation structure, offering a powerful tool for long-term ecological monitoring, especially in areas that are logistically difficult to access via traditional methods. This approach allows for detailed spatial planning of bush control interventions, such as selective clearing of encroaching species. The use of drone imagery has proven to offer an effective and efficient approach for mapping woody cover. Key recommendations emanating from the study include the following:

1. Expand the drone monitoring programme to other provinces affected by bush encroachment, particularly unmonitored communal areas and nature reserves.
2. Support data-driven management plans by, for example, using woody cover and canopy height maps to develop priority clearing zones, targeted chemical or mechanical interventions, and grazing management strategies. The results could also be integrated into early warning systems for rangeland degradation.
3. Link with national policies by incorporating drone-based mapping data into national environmental monitoring frameworks and conservation initiatives under CARA.

In light of the successful outcome of the original 2-year project, the DoA has approved funding for a 5-year follow-up project with the aim of assessing the feasibility of upscaling and using drone imagery and other remotely sensed data to monitor and assess land degradation. ARC latest state-of-the-art high precision DJI Matrice drone will be used in this new project with study areas in the Eastern Cape and KwaZulu-Natal provinces.

DEVELOPMENT OF THE NATIONAL AGROECOLOGY FRAMEWORK FOR SOUTH AFRICA

Agro-ecosystems are simplified natural ecosystems that have been modified by humans to produce food and fibre. While they retain some ecological functions, they typically contain less biodiversity than natural ecosystems and are often intensively managed. These systems comprise both planned diversity (e.g. crops and livestock) and unplanned diversity (e.g. weeds, pests and non-crop species). However, many agro-ecosystems have lost the balance required for long-term sustainability due to increasing pressures, input dependency and unsustainable practices.

Globally, the prevailing food system has come under scrutiny for its failure to equitably serve people or the planet. Persistent malnutrition, environmental degradation and climate-related vulnerabilities highlight the urgency for systemic transformation. To achieve a more just and resilient food system, a shift is required – one that integrates ecological, economic and social considerations into the design and management of agro-ecosystems.

South Africa's food systems, like those elsewhere, face multiple interrelated challenges, including climate change and increased weather variability, land degradation and declining soil health, loss of biodiversity, social and economic inequities, and over-reliance on high-input conventional agriculture. Conventional approaches have often prioritised productivity at the expense of sustainability, leading to outcomes that compromise long-term food security and environmental health.

Agroecology, which is grounded in ecological science and bolstered by local knowledge and inclusive governance, offers a transformative solution. Agroecology is an integrated, multidisciplinary approach that applies ecological principles to agricultural systems. It recognises the interconnectedness of environmental sustainability, social justice and economic viability. As a science, practice and movement, agroecology seeks to build food systems that are resilient, inclusive and regenerative.

The framework for agroecology is guided by the 10 Elements of Agroecology endorsed by the United Nations Food and Agriculture Organisation (FAO) and the 13 Agroecological Principles developed by the High-Level Panel of Experts (HLPE) on Food Security and Nutrition. These principles encompass the following:

- a. *Environmental sustainability*, including biodiversity, input reduction, soil and animal health, synergies to enhance positive ecological interactions, and sustainable governance of land and natural resources.

- b. *Social equity and participation*, emphasising co-creation of knowledge, preservation of social and cultural values, and inclusive participatory decision-making by both producers and consumers.
- c. *Economic fairness*, including support for diversified livelihoods, fair trade practices, equitable benefit-sharing, and stronger linkages between producers and local markets.

The above principles have been adapted to the South African context in the **National Agroecology Framework for South Africa (NAFSA)**, which was developed under an ARC-led project funded by the Department of Agriculture (DoA). The key project components included a comprehensive review of South African and African policies and legislation relevant to agroecology; field visits to 10 municipalities across five provinces (Free State, KwaZulu-Natal, Limpopo, Northern Cape and Western Cape) representing diverse agricultural systems; and engagements with a wide range of stakeholders, including commercial and smallholder farmers, farmer associations and extension practitioners. These participatory, grassroots assessments provided critical insights into the current state of agroecological practices in South Africa and helped to inform the design and objectives of NAFSA.

The research findings highlighted the diverse farming practices, challenges and levels of agroecological awareness among different farmers and farming communities. Some farmers have successfully transitioned to regenerative agriculture and integrated pest management, while others continue to rely on conventional farming methods due to financial constraints and concerns about profitability. There is a general awareness of sustainable practices, even among those who may be unfamiliar with agroecological terminology. Many farmers already implement conservation tillage techniques, crop rotation and organic fertilisation methods. However, the level of adoption of these practices varies depending on access to resources, land ownership, water availability and the type of farming system.

The overarching goal of NAFSA is to provide a roadmap for the transition to agroecological food systems in South Africa. Its specific objectives are:

1. To enhance food security and food sovereignty at national, local and household levels by promoting sustainable production aligned with agroecological principles.
2. To build climate resilience and adapt to climate-related risks through context-specific, adaptive agroecological practices.
3. To promote One Health, integrating animal, human and environmental health through holistic land and resource management using agroecology principles.
4. To support knowledge sharing and build local capacity through education, training and participatory research.
5. To foster circular economies and promote economic viability for farmers and local communities.
6. To encourage the sustainable use of natural resources, protecting ecosystems while meeting the needs of present and future generations using agroecological practices.

Realising the goals of NAFSA requires coordinated action across sectors and stakeholder groups. Key to the implementation strategy are:

- » Promoting regionally tailored agroecological practices across South Africa's 12 agroecological zones;
- » Strengthening research and innovation to support on-farm implementation;
- » Building education and capacity development programmes for farmers, extension agents and policymakers;
- » Creating dedicated value chains and markets for agroecologically produced goods;
- » Establishing institutional and policy frameworks to support the transition; and
- » Facilitating inclusive stakeholder engagement, with targeted support for women and youth in agriculture.

The transition to agroecological food systems represents a paradigm shift – one that places people and ecosystems at the centre of agricultural policies and practices. By embedding agroecology into South Africa's agricultural transformation agenda, NAFSA seeks to:

- » Improve food security and sovereignty;
- » Reduce poverty and inequality;
- » Enhance climate resilience;
- » Restore degraded ecosystems and water resources; and
- » Promote good health and well-being for all.

This transformation must be farmer-led and inclusive, drawing on the collective efforts of government, civil society, research institutions, the private sector and communities. Through shared commitment and collaborative action, agroecology offers a compelling pathway to a more sustainable and equitable food future for South Africa.

Following the successful development of the National Agroecology Framework for South Africa in the original 2-year project, the DoA has approved funding to extend the project for a further five years in order to learn from operational examples of agroecology farm-food systems, including analysis of farm economics, value chains, emerging markets and socio-economic impact. The extended project

also includes capacity building and training through living labs and multistakeholder engagements for advocacy and awareness about agroecology.



Project team members engaging with smallholder farmers at Riversdale, Western Cape



Application of agroecology principles on a commercial farm near Prieska, Northern Cape

OUTCOME 5: ENHANCED RESILIENCE OF AGRICULTURE

INTEGRATED FOOD AND ENERGY SYSTEMS FOR CLIMATE CHANGE MITIGATION AND IMPROVED FOOD SECURITY IN RURAL AREAS

South Africa continues to face the dual challenges of food insecurity and the impacts of climate change, particularly in rural communities that rely on agriculture for their livelihoods. Rising temperatures, prolonged droughts and erratic rainfall patterns are placing immense pressure on water availability, energy access and food production systems. To address these challenges, an **integrated food and energy system (IFES)** has emerged as a holistic approach to building climate resilience, improving food security and promoting sustainable resource use. The IFES is designed to implement a practical, community-based solution that combines biogas energy generation, rainwater harvesting and sustainable agricultural production. The figure below illustrates the interaction between the three core IFES components: **biogas digester**, **rainwater harvesting system** and **drip-irrigated vegetable garden**. The closed-loop

model exemplifies a sustainable nexus between food, energy and water security.

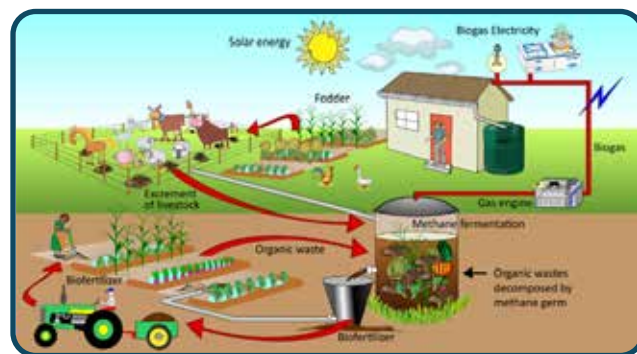


Illustration of an integrated food and energy system (IFES) implemented in rural communities

In a project funded by the Department of Agriculture (DoA), a total of 44 integrated food and energy systems have been rolled out at sites in six provinces of South Africa over the past four years, distributed as follows:

PROVINCE	LOCATION	NUMBER OF IFES INSTALLED
Mpumalanga	Masibekela and Sibange villages	10
Eastern Cape	KwaMbange	6
KwaZulu-Natal	Gunjaneni village in Mtubatuba	10
Limpopo	Masia village	6
Free State	Rooifontein Trust in Thaba Nchu	6
North West	Mokasa 1, Mokasa 2 and Lokgabeng villages in Taung	6

Selected beneficiary households were supported through the installation of an IFES that comprised a biogas digester connected to a cast iron gas stove, a rooftop rainwater harvesting system, a drip irrigation system, and a shade net structure for crop protection. They also received training on the operation, maintenance and benefits of the integrated system, and community members were further supported with agricultural inputs, technical advice and monitoring visits to ensure successful adoption.

The biogas system installed at each project site consists of a 6m³ dome-shaped brick and mortar digester designed to process livestock manure and kitchen waste to produce methane gas. The gas is used primarily for cooking and heating, significantly reducing dependence on firewood and paraffin. The digester supports the anaerobic decomposition of organic material, resulting in two main outputs: clean, combustible gas and nutrient-rich slurry.

The slurry is an effective organic fertiliser that is reused in vegetable gardens to enhance soil fertility and crop productivity.

Each household was equipped with a 5000 litre storage tank that captures and stores rainwater runoff from rooftops. The water is primarily used for household cleaning, feeding the digester and irrigating the vegetable garden. The rainwater harvesting system is equipped with filtration to ensure clean storage, as well as a booster pump for use when the water level is below 25% capacity for irrigation purposes.

To enhance local food production, each project site maintains a 72 m² vegetable garden under shade netting, equipped with a drip irrigation system which is powered either by gravity from the rainwater storage tank or a booster pump, depending on the level of water in the tank. Crops grown include spinach, tomatoes, carrots, onions, peppers, lettuce, beetroot and other vegetables vital for household nutrition. The use of drip irrigation conserves water by delivering it directly to the plant roots and reduces weed growth and disease incidence due to minimal water contact with foliage and soil surfaces.

The impact areas of this project are as follows:

- **Reduction in greenhouse gas emissions and deforestation**

The project has contributed to climate change mitigation by capturing methane from decomposing organic waste through biogas digesters. This not only prevents the release of a potent greenhouse gas into the atmosphere but also replaces traditional cooking fuels like firewood and paraffin. As a result, there has been a noticeable reduction in deforestation and indoor air pollution, promoting healthier households and ecosystems.

- **Improved soil fertility and reduced chemical dependency**

Application of bio-slurry from the biogas process has enhanced soil fertility in household gardens. The organic fertiliser improves soil texture, moisture retention and nutrient content, leading to healthier and more productive crops. This has reduced the need for chemical fertilisers, lowering input costs and minimising environmental degradation from agrochemicals.

Enhanced food security and nutrition

The establishment of drip-irrigated vegetable gardens under shade net protection has enabled year-round food production. Households are now growing a range of vegetables such as spinach, tomatoes, onions and carrots, regardless of rainfall variability. This has increased the availability of nutritious food, diversified diets and improved household food security.

- **Increased water-use efficiency**

The integration of a 5 000 litre rainwater harvesting tank and drip irrigation system has improved water management practices at the household level. These systems provide a reliable water source during dry periods and minimise water loss through evaporation and runoff. This has resulted in more efficient water use which is essential in water-scarce rural communities.

- **Strengthened household and community resilience**

By integrating food, water and energy systems, the project has improved the ability of households to withstand climate-related shocks, such as droughts and energy shortages. The synergy among system components supports a more self-reliant and adaptive way of life, reducing vulnerability and increasing community sustainability.

- **Economic savings and income generation**

Households have reported a decrease in spending on cooking fuel and vegetables due to the availability of biogas and homegrown food. Additionally, surplus vegetable produce has provided income-generating opportunities through local market sales, supporting rural livelihoods and fostering micro-enterprise development, particularly among women and youth.

The 44 integrated food and energy systems implemented across six provinces in South Africa demonstrate a scalable and sustainable approach to addressing climate change challenges while improving food and energy security. The biogas digester, rainwater harvesting system and drip-irrigated vegetable garden work in synergy to form a resilient rural development model that can be replicated nationwide. However, continued support, community engagement and policy integration are vital to upscaling and sustaining this impact.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following

JOURNAL ARTICLES

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GRAIN CROPS

The ARC-Grain Crops (ARC-GC) Campus was established in 1981 in Potchefstroom in the North West province. Strategic and need driven research conducted by the campus involves cultivar evaluation, plant breeding, improvement of crop quality, weed control, conservation agriculture, plant nutrition, climate resilience, crop modelling, crop estimates, plant pathology, entomology, and nematology.

The ARC-GC is mandated to serve the summer grain crops as well as oil and protein seeds sectors. The Campus conducts R&D to enhance national productivity and the competitiveness of relevant producers and related industries. The ARC-GC researchers conduct field trials at both on-station and on-farm sites in all the nine provinces. In addition, the Campus is involved in training smallholder

farmers, new commercial farmers, and extension officers, and maintains gene banks of the mandated crops as national assets.

The mandated summer grain crops of ARC-GC are maize, sorghum and pearl millet. The oil and protein seed crops include bambara, cowpea, dry bean, groundnut, pigeon pea, soybean, and sunflower. New crops currently under evaluation are pigeon pea, finger millet, lentil, and rice.

In addition to other ARC Campuses, the ARC-GC collaborates with both local and international partners in International Agricultural Research Centres (CIMMYT, CIAT, ICRISAT, IITA, and IRRI), Universities, Private Seed Companies, NGOs, NARS, etc.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY

GRAIN SCIENCE IN ACTION: THE 2025 NGRP MEETING DRIVES INNOVATION FOR A CHANGING AGRICULTURAL LANDSCAPE

Under the theme “Farming 2.0: Smarter and Greener,” the 2025 Annual Meeting of the National Grain Research Programme took place in Potchefstroom, bringing together scientists, farmers, students, policymakers, and agri-industry leaders from across the country. Hosted by the Agricultural Research Council in partnership with North-West University, the meeting created a vital platform for strategic engagement around the future of South Africa’s grain and oilseed sectors.

This was not just a gathering of researchers sharing findings. It was a working session where ideas were tested against real-world pressures. With rising input costs, limited arable land, and growing climate challenges, the urgency for collaborative and context-driven solutions could not have been clearer. The meeting demonstrated how science, when grounded in the needs of farmers and aligned with national priorities, becomes a powerful tool for transformation.

The opening session focused on precision agriculture and the digital technologies reshaping how we farm. Presentations included the use of grid-based soil sampling and spatial analytics to improve fertiliser efficiency. Researchers introduced near infrared soil spectroscopy as a faster and more affordable alternative to laboratory-based testing and proposed building a national network to make this technology more widely accessible. Drone technology also featured strongly, with demonstrations showing how it is being used not only for monitoring and pest detection but also for precision spraying. Trials revealed that in some cases, drone applications were more cost-effective

and accurate than traditional methods. Engineers shared research that applies Lean and Six Sigma principles to grain logistics, aiming to improve efficiency in how grain moves from farm to silo.

One of the most impactful themes of the meeting was the emphasis on on-farm research and farmer-led innovation. Presenters made it clear that when farmers are involved in trials from the start, adoption of new technologies improves significantly. Research becomes more than theory it becomes practical and implementable. Grain SA's involvement through the Agricultural Bioeconomy Innovation Partnership Programme is helping to bridge this gap by supporting innovation in grains, aquaculture, sorghum, and biosecurity. The programme has mobilised more than R400 million and is helping build capacity through technician training, decision-support tools, and targeted support for smallholder farmers.

The meeting also tackled some of the regulatory and infrastructure challenges facing agricultural innovation. With only 12 million hectares of arable land in South Africa and just one million under irrigation, participants emphasised the need for more resilient crop cultivars, better irrigation systems, and adaptive crop protection strategies. Presentations addressed gaps in policy, calling for urgent reform in plant breeders' rights, as well as updated approaches to regulation on genetically modified organisms and gene editing technologies.

The session on breeding focused on the long timelines and high costs associated with developing new cultivars. Researchers showcased how speed breeding is helping to shorten development cycles, particularly in dry beans,

where three generations can now be completed in a single season. Tools such as indoor scanners and automated colour sorters are increasing the scale and precision of trait assessment. Disease resistance trials showed promising results, with soybean cultivars displaying resistance to both Sclerotinia stem rot and Sudden Death Syndrome. In wheat, the integration of weather data to model pest outbreaks is supporting more targeted pest management strategies that reduce chemical use and improve sustainability.

Young researchers brought dynamic contributions to the meeting, presenting work on bio stimulants, marker-assisted selection, and gene expression under salinity stress. Their participation reflected the growing investment in next-generation agricultural talent and the importance of building a pipeline of future scientists who understand both the science and the context in which it must be applied.

The final session addressed critical but often overlooked threats such as soil health decline, nematode damage, and mycotoxin contamination.

The 2025 NGRP Annual Meeting did more than share information. It moved the conversation forward. It showed how collaboration, applied research, and bold thinking can drive real progress in a sector facing serious pressure. Through the combined efforts of the ARC, North-West University, and its research partners, the event helped chart a clear path for increasing productivity in South African grain systems.

In a time of change, uncertainty, and growing need, the knowledge shared, and relationships built at this meeting reaffirmed the critical role of science in strengthening the resilience and performance of our agricultural sector.



The research and academic community joined hands to find viable solutions for sustainable grain crops production during the NGRP

ADVANCING CROP PRODUCTIVITY THROUGH PRECISION PHENOTYPING: THE IMPACT OF PHENOSPEX

Phenospex systems are crucial for advancing plant science and agriculture by enabling high-throughput, non-destructive plant phenotyping. This technology allows researchers and breeders to accurately and efficiently monitor plant growth, health, and traits, ultimately accelerating the development of improved crops and sustainable agricultural practices. With this machine, crop growth and development can be quickly and non-destructively monitored through spectral monitoring techniques. These techniques help to understand how phenotypic variation in crops is linked to environmental conditions most especially in fluctuating climate environments. This facility helps to facilitate accelerating plant research and breeding due to automated data collection. These data include plant characteristics, such as height, biomass, leaf pigmentation, and stress responses. Automated data collection saves time and resources compared to traditional manual methods. Phenospex provides objective and reliable data, reducing subjectivity and improving the accuracy of research findings. The systems can detect early signs of stress in plants, such as drought or nutrient deficiencies, allowing for timely interventions to mitigate potential yield losses. By enabling more targeted use of pesticides and fertilisers, Phenospex can contribute to reduced reliance on chemical inputs, minimising environmental impact. Most especially, the data generated by Phenospex can be integrated with other data sources and models, further enhancing our understanding of plant growth and development.

The Phenospex facility at the ARC – GC is the first of its kind in Africa and it has been used for various studies. One of the studies is the “Wheat pre-breeding programme”. Wheat pre-breeding programme is crucial for enhancing wheat production and resilience. The programme helps breeders develop more robust and productive wheat cultivars, improving food security and farmer livelihoods. Another important project under this facility is “Establishment, development and production of upland rice in South Africa”. This programme involved cultivar evaluation and breeding of rice which the facility helps in terms of genotypes characterisation and yield evaluation. Under the Phenospex, more than 150 lines of upland rice were evaluated for their agronomic characteristics and yield components. Another study carried out under the Phenospex machine is “Monitoring growth and development of oats”. During this study, it was highlighted that Phenospex was able to effectively phenotype oats at optimum growing conditions. It is suggested that it can also phenotype oats under abiotic stresses showcasing growth and development monitoring capabilities of the machine. A recently concluded study under the Phenospex was

research on “Assess phenotypic responses and yield of dry beans and orange-fleshed sweet potato grown in a relay intercrop”. This was towards a Master’s degree programme for a student registered at North West University. The study exhibited the importance of the machine in capturing the architectural structures of plants and how it interlinks in different cropping systems. In collaboration between University of Pretoria and ARC, a project was carried out under the Phenospex machine. This project aimed to use a Phenospex FieldScan’s to evaluate maize planting date trial. Part of the objectives of the project was to compare crop indices calculated from multispectral imaging collected by UAV and the indices collected from the Phenospex.



Phenospex's FieldScan System for Digital Plant Phenomics

ARC OUTCOME: 5 - ENHANCED RESILIENCE OF AGRICULTURE

SAFEGUARDING SOUTH AFRICAN MAIZE: RESPONDING TO THE THREAT OF GOSS'S WILT AND OTHER BACTERIAL DISEASES.

Maize is more than a staple in South Africa. It is the backbone of the country's food system and a vital contributor to the agricultural economy. With millions relying on it for sustenance and income, the health of this crop is non-negotiable. Yet recent developments have highlighted its growing vulnerability. In early 2024, a significant threat emerged when Goss's Wilt, a highly destructive bacterial disease caused by *Clavibacter nebraskensis*, was confirmed in South Africa for the first time. This detection triggered immediate trade consequences, including temporary

bans on maize imports by neighbouring countries such as Botswana and Namibia.

Goss's Wilt is not new to science. First identified in 1969 in the United States, the disease has since spread to other maize-producing regions globally. It thrives in hot, dry conditions and can cause yield losses of up to 50 percent. In South Africa, where similar climate conditions prevail in key production zones, its arrival is particularly concerning. Making matters worse is the fact that the early symptoms of Goss's Wilt closely resemble those of other maize diseases, meaning it may have gone undetected in local fields for years.

In response to this threat, the ARC has taken proactive steps to identify, monitor, and control the disease. The organisation launched a nationwide survey during the 2024 maize growing season, covering 54 maize fields across six provinces: North-West, Free State, Eastern Cape, Gauteng, KwaZulu-Natal, and Mpumalanga. Symptomatic maize leaves were collected and subjected to rigorous testing at the Grain Crops Laboratory in Potchefstroom. Through DNA extraction, bacterial culturing, and molecular analysis using species-specific PCR primers, the presence of *Clavibacter nebraskensis* was confirmed in all surveyed provinces.

This work is part of a broader surveillance and biosecurity programme that is now positioning South Africa as a regional leader in plant health. The ARC has been designated as a Centre of Excellence by the Food and Agriculture Organisation under the SADC STOSAR Phase II initiative. This status brings with it both responsibility and opportunity. The Institute will coordinate surveillance across the SADC region, support capacity building, and establish a diagnostic laboratory and biosecurity glasshouse in Potchefstroom. These facilities will serve as hubs for research, training, and regional cooperation on the prevention and control of quarantine bacterial diseases.

Importantly, the project extends beyond diagnostics. It aims to understand how environmental factors, crop management practices, and cultivar susceptibility contribute to disease outbreaks. Researchers are also conducting germplasm screening trials to identify maize varieties that show resistance to these pathogens. The long-term goal is to integrate these findings into practical management strategies that reduce the spread and impact of Goss's Wilt and similar threats.

The benefits of this work are already being felt. For farmers, early detection and accurate diagnosis mean the ability to act quickly, reducing the risk of major yield losses. The development of resistant cultivars and field hygiene guidelines will further empower farmers to protect their livelihoods. For researchers and students, the programme offers access to advanced scientific tools and an opportunity to build expertise in plant pathology and diagnostics.

Government authorities, meanwhile, are better equipped to enforce phytosanitary regulations and maintain market access for South African maize. Seed companies and agribusinesses also benefit through increased confidence in local seed quality and the development of disease-resistant products.



Goss' Wilt infected maize

Perhaps most importantly, this work helps to safeguard the broader economy. Maize plays a central role in rural food systems, livestock feed, and agro-processing industries. A major disease outbreak not only threatens farmers' income but also food availability and national economic stability. By focusing on prevention, preparedness, and regional collaboration, the ARC is strengthening South Africa's resilience in the face of biological threats.

OUTCOME: 4 SKILLED AND CAPABLE AGRICULTURAL SECTOR

ARC LAUNCHES 2025 SUNFLOWER PRODUCTION MANUAL AT NAMPO

The launch of the 2025 Sunflower Production Manual at NAMPO marked a significant step in the Agricultural Research Council's ongoing efforts to make scientific knowledge practical and accessible for South African farmers. At a time when producers are contending with climate uncertainty, rising input costs, and land constraints, this manual offers clear and research-backed guidance to improve yields and production efficiency in sunflower farming.

Sunflower has become increasingly important in South Africa's agricultural economy. As the most prominent oilseed crop, it offers farmers a drought-tolerant alternative that fits well into crop rotation systems, particularly in areas with limited rainfall. In response to this shift, the ARC–Grain Crops Institute developed a manual that equips producers with knowledge that can be applied directly in the field, helping them to optimise productivity while reducing risk.

The 2025 edition expands on the earlier 1999 publication titled *Sonneblomproduksie, 'n Bestuursgids vir die Wenprodusent*. It has been comprehensively updated to reflect current research and agronomic practices. Covering the entire production cycle, the manual provides detailed information on land preparation, cultivar selection, soil fertility, weed and pest control, disease management, irrigation, fertilisation, harvesting methods, and market considerations. The content draws from years of scientific work and real-farm data, offering guidance that is not only accurate but highly usable.

The manual is available in both English and Afrikaans, making it accessible to a wide range of producers and reflecting the ARC's commitment to inclusivity in knowledge sharing. The layout includes region-specific recommendations, illustrated diagrams, and step-by-step explanations designed to support understanding and ease of use. Whether applied on a commercial scale or in smallholder operations, the manual provides practical support grounded in South African conditions.



Sunflower Production Manual

Among its key sections, the manual includes clear guidance on ideal climate and soil conditions for sunflower production. It presents fertiliser guidelines matched to soil types and yield targets, as well as strategies for identifying and managing common weeds, insects, and diseases. It also offers advice on harvesting techniques to reduce seed loss and preserve quality. Additional guidance is provided on crop rotation planning and conservation tillage practices, supporting long-term soil health and farm sustainability.

This information is particularly relevant in regions where maize and other crops are no longer viable due to unreliable rainfall. In such areas, sunflower offers a resilient and valuable alternative. The manual's ability to help farmers adapt their practices based on local realities is already making a difference. Since its release, it has received strong interest from farmer cooperatives, input suppliers, training institutions, and development organisations.

Extension officers are incorporating it into farmer training programmes, while agricultural colleges are using it as a reference in their curricula. Input suppliers and cooperatives are sharing it with their farmer networks as a trusted source of production advice. In each case, the manual is fulfilling its intended purpose: turning scientific knowledge into improved decision-making and stronger farming outcomes.

The success of this publication highlights the role of the ARC as a key enabler of growth in the grain sector. By providing practical, research-based information, the organisation is helping farmers to improve their productivity, manage risks more effectively, and strengthen their economic position. The manual is not simply a technical document. It is a strategic tool that supports better farming practices and contributes directly to increased agricultural output.

This work contributes to the ARC's broader goal of strengthening South Africa's agricultural production systems. In a sector increasingly defined by uncertainty, the ability to make informed, efficient, and sustainable choices is essential. The sunflower manual represents one of many ways in which the ARC is working to bridge the gap between research and real-world farming.

By helping farmers to achieve better results from the same piece of land, the manual speaks to the heart of agricultural productivity. It shows that knowledge, when clearly communicated and practically applied, can be as powerful as any physical input. Through initiatives like this, the ARC continues to build the capacity of the sector and support a more secure and sustainable future for South African agriculture.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

JOURNAL ARTICLES

Collinson, S., Cairns, J.E., Ndlala, L., Deonovic, B., Ligeyo, D., Albertsen, M., Chivasa, W., Mashingaidze, K., Olsen, M.S., Ertiro, B.T., & Prasanna, M.B. Ms44-SPT: unique genetic technology simplifies and improves hybrid maize seed production in sub-Saharan Africa (2024) 14:32125, <https://doi.org/10.1038/s41598-024-83931-1>

Maali, S. Cochrane, N. Makgoga, W, Erasmus J. 2024. The impact of planting dates and hybrid selection on sunflower seed yield and oil content. South African Journal of Plant and Soil 2024,41(1): 1–10 link to this article: <https://doi.org/10.1080/02571862.2024.2352174>.

Makuya, V., Tesfuhuney, W., Moeletsi, M.E, & Bello, Z.A. Assessing the Impact of Agricultural Drought on Yield over Maize Growing Areas, Free State Province, South Africa, Using the SPland SPEI. May 2024 Sustainability 2024, 16(11), 4703; <https://doi.org/10.3390/su16114703>

Ngwenya, S.P., Sellwane. J.M., Shargie, N.G., Brown. A. P., Chivasa. S., Ngara. R., 2024. Regulation of Proline Accumulation and Protein Secretion in Sorghum under Combined Osmotic and Heat Stress. Plants 2024, 13(13), 1874; <https://doi.org/10.3390/plants13131874>. Submission received: 19 May 2024 / Revised: 19 June 2024 / Accepted: 26 June 2024

Oluwarinde, O.B., Ajose, D.J., Abolarinwa, T.O., Montso, P.K., Njom, H.A., Ateba, C.N. Unravelling the Resistome, Virulome, and Pathogenicity of Escherichia Coli O157:H7 From Cattle Faeces. Wiley International Journal of Microbiology Volume 2025, Article ID 5087461, 15 pages <https://doi.org/10.1155/ijm/5087461>

Rothmann, L.A., Masisi, T.V., Flett B., and Janse van Rensburg, B. Mycotoxins From field to feed, Brill Wageningen Academic ISBN: 978-9004696310, 2025, page 13-54. March 2025.





SMALL GRAIN

ARC-Small Grain (ARC-SG) serves the South African small grain commodity grouping, encompassing wheat, barley, triticale, and oats. As South Africa strives to become less dependent on wheat imports (avg. 1.5 mil tons per annum), ARC-SG continues to render research in support of mainly four production pillars:

1. Pre-breeding for enhanced resistance/quality traits in locally-released cultivars;
2. Cultivar development for planting under dryland and irrigation conditions, nationally;
3. Cultivar evaluations under the NCEP; and
4. Crop protection through the development of bioinsecticides and pest surveillance for early warning.

The Campus employs new state-of-the-art breeding technologies, including techniques for improved background selection and molecular markers. A meta-data analysis on wheat breeding research conducted by ARC-SG, has revealed a return on investment (ROI) ratio of 5.1:1.

Cultivar evaluations under the NCEP are performed in all major production areas, supporting reliable, independent and annually published Production Guidelines, used by small grain producers and policy makers. Several industry role players assisted with the task of gathering, combining, and presenting these results to the small grain industry. Crop Protection research focuses on pest surveillance and early warning systems as pre-emptive approach against insects and diseases. Research on insect-killing microbes and their development as bio-insecticides is a key focus; commercialisation of these beneficial microbes is pursued in collaboration with private industry. A molecular screening service for weed resistance to herbicides is rendered to producers, facilitating correct herbicide choice.

In essence, research activities at ARC-SG enable producers to be economically competitive, ensuring food security through the availability of high quality, affordable cereals. Innovative technologies are implemented to maintain and extend the contribution that the small grain industry makes to the wealth and social welfare of all South Africans.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 1: INCREASE AGRICULTURAL PRODUCTION AND PRODUCTIVITY

ESTABLISHMENT OF RICE PRODUCTION AND DEVELOPMENT IN SOUTH AFRICA

In the face of escalating droughts and mounting climate-change challenges, ARC Small Grain is spearheading a bold effort to strengthen food security through upland rice. Unlike traditional paddy rice which requires continuous flooding, upland rice thrives in upland conditions relying on

seasonal rainfall and supplementary irrigation. Upland rice production has endless possibilities for adoption into South Africa's current grain production system.

The ARC, together with partners within the agricultural sector, academia and rice value chain to establishing the development and production of upland rice cultivars for adoption in South Africa. This is one of the major projects at Small Grain strategically aimed at shaping the agricultural sector to provide more opportunities for economic growth within the rice value chain where farmers can participate in.

The upland rice project in South Africa targets and participates with a wide range of stakeholders, including the Department of Science and Innovation (DSI), the

Technology Innovation Agency (TIA), the Department of Agriculture, the National Agricultural Marketing Council (NAMC), farmers, Universities, seed companies, and current rice value chain industry stakeholders such as importers and regulators, as well as international rice organisations.

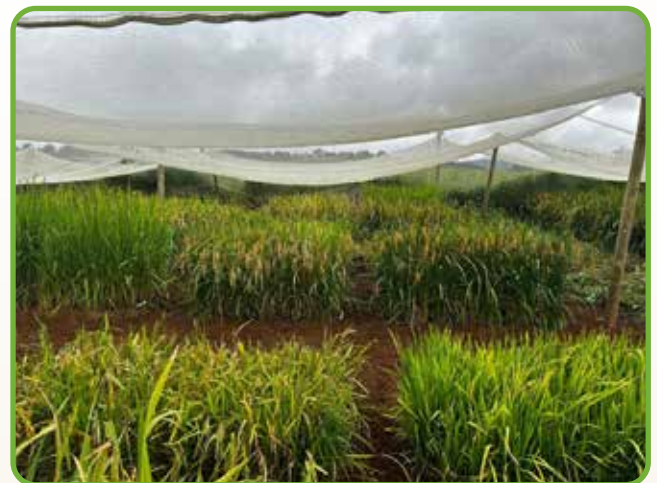
The positive impacts of this collaborative effort over the years are evident as rice production has been proven feasible in South Africa. Prospective adaptable rice accessions for production and development have been identified, and there are endless opportunities to address gaps within the rice value chain. A wide range of rice accessions acquired from an international rice organisation were evaluated across multiple grain production areas in South Africa for adaptation. Lines were identified that displayed great possibilities for further improvement/development across South Africa's diverse soils and climate. The research strategy deployed is designed to work with limited rain and irrigated only during critical stages allowing rice to grow well even under varying weather conditions.

By focusing on the development of climate resilient, high yielding crops with low input requirement, profitable crop alternatives can be added to the annual crop production cycle of farmers. And as South African rice consumption continues to rise, producing more locally, could significantly reduce import costs.

The upland rice project is beyond merely cropping science but it's about creating jobs, strengthening farmers against future challenges, and building real resilience in communities facing climate extremes. It's a practical, impactful step toward a food-secure South Africa.



International rice accessions planted at Small Grain Bethlehem



International rice accessions planted at Small Grain Bethlehem



Collecting data from rice accessions.

OUTCOME 2: SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES

NEW STEM RUST RACES DETECTED DURING THE 2024 SEASON

Stem rust caused by *Puccinia graminis* (Pgt) is one of the most important diseases of common wheat in South Africa (SA). Typical symptoms of stem rust include dark-red, elliptical pustules occurring mainly on the stem of infected wheat, often coalescing and rupturing the plant epidermis. This disease is frequently found in the winter

rainfall regions of the Western Cape and occasionally in the Free State and KwaZulu-Natal provinces. Under conditions favourable for disease development, stem rust can cause yield loss of more than 50%. These yield losses are similar to those reported from commercial fields during a localised outbreak of stem rust on summer-planted wheat near Bethlehem in the eastern Free State during 2020. Grain harvested from the affected cultivars did not make the minimum requirements for bread wheat as the hectolitre mass value recorded was below 74 and were therefore classified as low quality wheat with a significant decline in value.

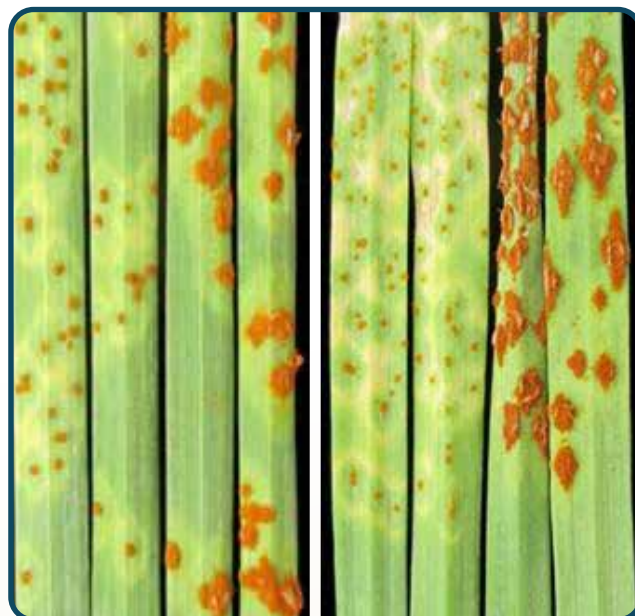
Stem rust is primarily controlled with fungicides and resistant cultivars. Resistant cultivars provide effective and environmentally safe control of stem rust. However, successful breeding and deployment of resistant cultivars depend on knowledge of the variability of the causal pathogen. This is because the stem rust pathogen can evolve to form new strains (races) which can overcome deployed sources of resistance resulting in epidemics and economic loss. Therefore, rust monitoring is considered essential to timeously detect new races, to determine their effect on cultivar responses and to provide early warning about possible threats. Rust monitoring also helps in the identification of effective resistance genes which can be used in resistance breeding.

Annual stem rust surveys and virulence studies have been conducted in South Africa since the early 1980s by ARC-Small Grain and collaborators from the University of the Free State (UFS). Outcomes from these studies include early detection and warning about the impact of new Pgt races and have made a significant contribution to stem rust resistance breeding in South Africa.

In a survey conducted in 2024, three new stem rust (*Puccinia graminis*) races were confirmed from isolates collected in the Western Cape. These races are BFGSP (North American notation) (2SA34: SA race nomenclature), CFGSP (3SA18/24) and PTKSP (2SA36/24). Furthermore, an isolate collected in 2023 in Free State province was identified as a new race TTKTF (2SA125) (virulent on resistance genes SrTmp and Sr25) (Photo1). Three of the four new races are virulent on Sr24. As Sr24 has been used in resistance breeding, certain South African wheat cultivars carrying this gene could become susceptible to the new races. Similarly, some South African winter wheat cultivars likely contain SrTmp, suggesting their potential susceptibility to 2SA125. Wheat cultivars and breeding lines were tested by Proof Willem Boshoff at UFS to see if the new races will pose a significant threat to current cultivars. At this stage the current cultivars are resistant, but some of the breeding lines and newer cultivars are at risk,

The new races detected in 2023 and 2024 indicate a continued variability of stem rust in South Africa, emphasizing the importance of rust monitoring to timeously

detect new races and provide early warning on potential risks. Continuous breeding for rust resistance remains of utmost importance to mitigate the impact of evolving stem rust pathogens.



Infection types caused by 2SA125 (left) and 2SA36/24 (right) on two leaves of wheat line LcSr24Ag (resistance gene Sr24). Right: Infestation type caused by 2SA34 (left) and 2SA125 (right) on two leaves of wheat line CnSSrTmp (SrTmp). Large pustules indicate susceptibility and small pustules indicate resistance. The new race 2SA36/24 is virulent on Sr24 but 2SA125 is not. Also, the new race 2SA125 is virulent on SrTmp but 2SA34 is not.

EVOLUTION OF INSECTICIDE RESISTANCE IN RUSSIAN WHEAT APHID

Russian wheat aphid (RWA) is an international pest on wheat and occurs in most countries where large scale wheat cultivation is practiced. Consequently, considerable efforts have been made to manage RWA globally. The two management options used currently are chemical control and breeding for deployment of resistant wheat cultivars. There are however drawbacks to both management practices. Chemical control has a negative impact on the environment, especially other insect groups such as predators, pollinators and decomposers. With widespread and continuous use of the same active ingredients, there is the possibility that RWA can build up resistance against these specific active ingredients. The drawback with resistance breeding is that certain RWA populations can overcome the resistance in the wheat, resulting in new biotypes virulent to the resistant wheat cultivars.

A strategic project led by ARC is positioning South Africa at the forefront of agricultural pest management, with a special focus on insecticide resistance in grain aphids.

The project aims to provide actionable data for managing pest resistance. Objectives include surveying major wheat production areas to assess the incidence and distribution of grain aphids, establishing clone populations from field-collected samples and screening these populations for resistance to commonly used insecticides. This initiative directly supports national objectives under the *Plant Production and Health* strategy and aligns with broader governmental frameworks promoting food security, sustainable crop production, and integrated pest management.

Targeting the wheat industry as its primary stakeholder, the project provides critical insight into the efficacy of chemical pesticides used in wheat farming. This enables timely interventions that can slow down or prevent the evolution of pesticide resistance in aphid populations, one of the most significant threats to crop yields and food security in South Africa.

RWA samples are collected annually during the wheat growing season. All main wheat production areas within the known distribution of the RWA are sampled. Samples are collected from cultivated wheat, barley and oats as well as volunteer wheat, wild oats, rescue grass and false barley in road reserves and around cultivated fields. Infested leaves are subsequently transported to the glasshouse for further testing. A single female aphid from each sample collected are used to produce a clone colony. The clone colonies are treated with various insecticides with a range of different active ingredients. This allows researchers to test the colonies resistance to a specific active ingredient. This process is essential in identifying potential resistance genes and recommending mitigation strategies to farmers and the agricultural sector at large.

As agricultural challenges become increasingly complex due to climate change, evolving pest dynamics, and biodiversity loss, this project continues to yield critical returns that benefit farmers, the broader industry, and food systems at large. It is not only advancing scientific knowledge but also empowering decision-makers, researchers, and producers with the tools and insights needed to act decisively.



RWA clone colonies in the glasshouse in Bethlehem.

During the 2024 season, severe damage to newly established barley, wheat and canola in the Sandveld production region of the Southern Swartland was observed. After two visits were undertaken to the Hopefield, Darling and Moorreesburg area, the cause of the damage was identified to be the Western Province grainworm. The grainworm is a small, flightless weevil species *Eremnus cerealis*. This small, brown-speckled beetle has one life cycle per year but can cause thousands of hectares worth of damage in a season. This pest is more prevalent in wetter seasons and due to the flightless characteristic of the species, it is usually found within the same area year on year. Producers should note that there are no insecticides registered for the control of this insect and localised cultural actions in known beetle infested areas may be the only way to minimise damage.

The problems begin when the first spring rains start to soften, the tough chorion membrane of the 1mm small eggs, ensures these insects survive when conditions are unsuitable for them. The small white larvae emerge and begin to eat the soft seedlings that are busy establishing. They grow and spend three to four months feeding below the soil surface on the growing crop. Then, as temperatures rise with the start of summer, they form pupae in the top layer of the soil. The flightless adult weevils emerge from October to December. They are active at night and thus seldom seen, spending the daylight hours in the soil or under organic material on the soil surface. Eggs are laid in the late summer to autumn after the first rains and then the cycle begins again.

After a thorough literature review was performed, the information gathered about the pest was shared with 30 producers of the Vorentoe Study Group. During this research it became evident that photos of the life cycle has never (to our knowledge) been documented. Therefore, during the visits to the Sandveld region, Dr Vicki Tolmay gathered samples and was able to capture images of different life stages that was previously not documented. These new images may provide vital information for further research into this species. *Eremnus cerealis* does not only negatively impact wheat fields in South Africa but also has the potential to infest vineyards in the Western Cape.



From left to right: The larva of *Eremnus cerealis* – note the large mandibles; pupae viewed from different angles; Adults: Above - a newly hatched beetle, Below - a fully matured beetle. Photo credit - Dr Vicki Tolmay; High resolution photograph of adult beetle with 1mm reference line. Image credit – Barcode of Life Datasystem

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURAL SECTOR

FARMERS' DAY AND WORKGROUP MEETING

The ARC-Small Grain in partnership with the African Farming hosted the African Farming Farmers' Day in Bethlehem on 30 July 2024. This was a one-day event featuring different speakers from the ARC-Small Grain, AFGRI, Standard bank, Santam Insurance, John Deere Finance, Red Meat Industry Services, Eskom, and Ford. Attendees arrived in numbers at the Small Grain institute for a full day of insightful presentations. Local commercial farmers, Mr OJ Masiu of Masiu Farming Enterprise and Mr Nkosana Farmboy Mtambo, and food security activist, Mr Thabo Olivier, shared their journey, valuable farming lesson learnt, and future possibilities with the attendees. Different presentations offered the most needed and practical solutions to the challenges faced by farmers either practicing crop farming, livestock farming or both. The ARC also gave a presentation on "Factors influencing crop yield and modern solutions for improved farming outcomes". The presentations highlighted the factors influencing crop yields and the possible tools producers can utilise to improve their outputs. These tools include precision agriculture instruments, mobile platforms and biotechnology applications.

ATTENDEES OF THE AFRICAN FARMING FARMERS' DAY

The ARC National Cultivar Evaluation Programme (NCEP), aims to equip producers with the knowledge and tools to select the best wheat cultivars, ensuring a prosperous and sustainable future for the wheat industry. South African farmers have many cultivars to choose from, as new cultivars

are being released regularly by breeding companies. By conducting wheat cultivar trials wherever wheat is produced in the country, the NCEP provides scientifically sound data for producers to make informed decisions on cultivar selection based on yield potential, quality and stability under their local soil and climate conditions. Without this information, producers would have to rely on guesswork, leading to inappropriate cultivar selections that could negatively affect yields and quality. NCEP conducts cultivar evaluations annually in significant dryland wheat production regions, such as the Western Cape and Free State. These trials, follow the National Cultivar Evaluation Protocol and provide producers and policymakers with annually updated, science-based recommendations to help them choose the most suitable cultivars for their regions. These regions are divided into sub-regions based on climate and soil properties to ensure the accurate selection of the best cultivars for the localities. For The irrigation wheat evaluations are conducted in four main geographic regions: the cooler central irrigation region in the Northern Cape; the warmer northern irrigation region in North West, Limpopo and Gauteng; the Highveld region in Mpumalanga and Free State, and KwaZulu-Natal.

Researchers and key role-players within the grain value chain gathered at the ARC in Bethlehem on 20 February 2025 to discuss the 2024 results of the NCEP trials. The annual meeting aimed to pave the way for the development of cultivars and the continued improvement of the agricultural sector. Those in attendance were from Corteva, Syngenta Seed, Department of Agriculture, Land Reform and Rural Development (DALRRD), Agricol, Limagrain, Provincial Agricultural Departments, DSI, UFS, US, Tiger Brands, Grain SA, SANSOR, SAGL, Capstone Seeds, GFADA and ARC. This year's meeting was a success with over 50 stakeholders in attendance physically and virtually. Several role-players presented and participants discussed the results and recommendations were made to continue all the projects

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following

JOURNAL ARTICLES

Duma, S.W., Shimelis, H., Tesfamariam, S.A. & Tsilo, T.J. 2025. Genetic Parametres and Trait Associations in Wheat under Drought and low Nitrogen Conditions. *Nitrogen* 2024, 5, pp 1106-1214. <https://doi.org/10.3390/nitrogen5040076>.

Christian, M.M., Shimelis, H., Laing, M.D. & Tsilo, T.J. 2025. Association of Yield and Yield Components among Selected Bread Wheat Genotypes under Silicon Fertilisation and Drought Conditions. *Journal of Agronomy and Crop Science*, 2025; 211:e70020. <https://doi.org/10.1111/jac.70020>.

Figlan, S., Hlongoane, T., Bainotti, C., Campos, P., Vanzetti, L., Tranquilli, G.E. & Tsilo, T. 2024. Bread wheat cultivar Popo harbours QTLs for seedling and adult plant resistance to leaf rust in South African and Argentine environments. *Plant Stress* 14 (2024) 100570. <https://doi.org/10.1016/j.stress.2024.100570>.

Jankielsohn, A. & Daniel, G.M. 2024. Restoration of Natural Habitats as a Nature-based Solution for Sustaining Insect Biodiversity to Ensure Sustainable Food Production. *Global*

Journal of Ecology 2024; 9(2):146-155. <https://dx.doi.org/10.17352/gje.000107>.

Zondo, S.N.N., Mohase, L., Tolmay, V.L. & Mafa, M.S. 2024. Elucidating β -1,3-Glucanase and Peroxidase Physicochemical Properties of Wheat Cell Wall Defense Mechanism against *Diuraphis noxia* Infestation. Online publication DOI: 10.3791/66903. *Journal of Visualized Experiments*, June 2024. <https://www.jove.com/t/66903/elucidating-13-glucanase-peroxidase-physicochemical-properties-wheat>.

CHAPTERS IN A BOOK

Von Well. E., Booyse, M. & Fossey, A. 2024. Gamma Irradiation as Tool for Mutation Breeding in Wheat. InTech Open Wheat Research and Utilization.

Jankielsohn, A. 2024. Development of a protocol to determine and mitigate the evolution of insecticide resistance in Russian wheat aphid populations in wheat production areas of South Africa. In Kumar, S. (ed) *Insecticides in Pest Control - Impact, Challenges and Strategies*. IntechOpen.





The ARC Infruitec-Nietvoorbij (ARC INFR-NVB) does R&D, as well as technology transfer on breeding, cultivation, pest and disease management and postharvest technology of stone and pome fruit, grapevines, alternative crops (such as olives and pomegranates) and indigenous herbal teas. Its main campus is situated in Stellenbosch, Western Cape, but cultivar development and research is conducted in all regions of South Africa where the crops are grown.

R&D in the various divisions focus on different aspects of fruit and wine production to improve crop performance and productivity, ensure sustainable use of natural resources, and increase the nutritional value, quality, and safety of agricultural products. These aspects include breeding cultivars adapted to local conditions and able to cope with climate change, sustainable soil cultivation and management practices, water efficient irrigation, winery

wastewater management, viticultural and horticultural practices to improve crop performance, integrated pest and disease management (pre- and postharvest), winemaking and postharvest processing of fruit and herbal teas.

During the last 12 years, more than 50 cultivars were developed and commercialised and 99% of fruit used by the canning industry are ARC cultivars. Gene banks are valuable national assets, and the Campus is the custodian of genetic resources for grapevine, pome and stone fruit, wine yeast, fynbos, and indigenous teas (rooibos and honeybush), used by the ARC, private sector and government for breeding purposes, training, and comparative descriptions of cultivars. The Campus also provides a range of diagnostic and analytical services to growers, winemakers, and technical advisors to assist with decision-making and to help ensure sustainable, economically viable farming.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY

ROOTZONE WATER AND NUTRIENT RETENTION UNDER VEGETABLE PRODUCTION IN SOIL AMENDED WITH ZEOLITE

Vegetable production in South Africa, particularly among smallholder farmers in semi-arid regions like the Western Cape, faces significant challenges due to poor soil fertility and water scarcity issues worsened by climate-induced droughts. These constraints contribute to low yields, poor crop quality, and food insecurity. In response, this project was initiated to assess the use of zeolite, a naturally occurring mineral with high water-holding and nutrient-retention properties, as a soil amendment to improve vegetable productivity. Despite being locally mined,

zeolite is seldom used in agriculture, with limited field-based research available in the South African context. The study involved cultivating Swiss chard, cabbage, and two indigenous leafy vegetables using various rates of zeolite to test its potential for improving crop performance, water retention, and nutrient use efficiency under real-world field conditions.

Aligned with national strategies such as the National Development Plan 2030, Food and Nutrition Security Policy, and ARC's own climate-smart research agenda, the project supports sustainable production, improved water use, and smallholder resilience. It targets diverse stakeholders, including smallholder farmers, researchers, extension officers, students, communities, and policymakers. Early results show zeolite significantly enhances crop growth, reduces irrigation needs, and improves soil fertility. It has also created opportunities for student training, contributed to new agricultural knowledge, and had a social impact through vegetable donations to food shelters. These outcomes demonstrate the project's potential to scale up as a locally relevant and sustainable solution for climate-resilient agriculture in South Africa.



Vegetable trial site showing growing plants and harvesting of vegetables. Harvested produce was donated to the Stellenbosch Night Shelter, an event that was featured in Farmer's Weekly, highlighting the project's impact on community nutrition and outreach.

NEW CULTIVAR REGISTRATION: ROSELYN BLUSH PEAR

The development and registration of the Roselyn blush pear cultivar align with key national policy and strategic frameworks aimed at promoting innovation, food security, and economic growth in the agricultural sector. These include the National Development Plan (NDP) 2030, which emphasises the importance of agricultural innovation and the development of high-value crops to increase competitiveness and export potential. The project also supports the objectives of the Agricultural Policy Action Plan (APAP) and the Department of Agriculture, Land Reform and Rural Development's (DALRRD) Strategic Plan, which encourage the diversification of agricultural products, strengthening of plant breeding programmes, and the protection of new plant varieties through intellectual property rights such as Plant Breeder's Rights (PBR). Additionally, this initiative contributes to the Economic Reconstruction and Recovery Plan (ERRP) by promoting

agro-processing and value addition to enhance market access and job creation in rural areas.

Outcomes of the Roselyn cultivar registration include the successful protection of a new, locally developed high-value cultivar under the Plant Breeder's Rights Act, supporting the commercialisation and competitive positioning of South African pears in both domestic and international markets. The cultivar's appealing appearance, improved blush coverage, and suitability for colder production areas like Koue Bokkeveld and Wolseley offer growers an opportunity to diversify their orchards and meet market demand for premium fruit. Furthermore, the cultivar's release strengthens the ARC's reputation in fruit innovation and reinforces its contribution to a resilient, market-oriented agricultural sector.



Pyrus L. 'Roselyn

WATER USE AND WATER PRODUCTIVITY AND POMEGRANATE ORCHARD WATER USE

The Water Use and Water Productivity projects have had significant positive impacts on various stakeholders, including farmers, researchers, and policy-makers. For farmers, the projects have provided practical, science-based guidance on efficient irrigation scheduling and improved water use practices in pomegranate orchards particularly important in water-scarce regions. By measuring sap flow,

soil water balance, and canopy dynamics, the projects have helped farmers understand how tree structure and seasonal changes affect water requirements. Researchers have benefited from the high-quality data generated using advanced micrometeorological methods, which support further research and model development. For policy-makers, the data serves as a valuable resource for developing evidence-based strategies on water allocation and agricultural support.

These projects are well aligned with national policies and strategic frameworks, which guide the ARC's focus. Specifically, they support the objectives of the National Water Act (Act No. 36 of 1998), the National Development Plan (NDP) 2030, and the Department of Agriculture, Land Reform and Rural Development's (DALRRD) Strategic Plan all of which emphasise the need for sustainable water use and climate-smart agriculture. The work also contributes to the implementation of the National Water and Sanitation Master Plan and the Strategic Framework for Water Use Efficiency in Agriculture. By generating tools, methodologies, and data that promote efficient resource use, the projects directly contribute to national efforts aimed at enhancing resilience, promoting environmental stewardship, and supporting sustainable agricultural productivity.



a) Capturing the shadowed area of pomegranate trees at Avontuur for the manual light interception approach.

b) Pomegranate tree at Avontuur enclosed with net for Accupar LI-80 calibration purposes.

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

BUILDING CAPACITY THROUGH INDUSTRIAL HEMP TRAINING

As part of the project's collaboration and knowledge exchange with other institutions, ARC attended a Practical Training Course on Cultivation Practices of Industrial Hemp on 12 March 2025, held at Bien Donné Research Farm. The training was jointly facilitated by the Agricultural Research

Council (ARC), the Department of Agriculture, Land Reform and Rural Development (DALRRD), and the Western Cape Government. The course focused on several critical areas, including the legislative framework for cannabis cultivation, specifically covering the updated regulatory requirements and the Plant Improvement Act (PIA) provisions. Additionally, the training provided an introduction to industrial hemp cultivation practices, supported by in-field demonstrations and technical discussions. This engagement not only enhanced the ARC's understanding of the regulatory and agronomic requirements for hemp cultivation but also strengthened the project's alignment with emerging agricultural opportunities and cross-institutional collaboration.

The Practical Training Course on Industrial Hemp cultivation provided valuable capacity building for both the individual and the broader project team. Through this training, the ARC gained first-hand exposure to updated regulatory frameworks, including compliance requirements under the Plant Improvement Act (PIA), knowledge that is essential for aligning agricultural research with South Africa's evolving legal landscape on cannabis and hemp. This directly supports the ARC's commitment to regulatory readiness and policy-aligned research.



Practical training course on Cultivation Practices of Industrial Hemp held at Bien Donne Farm

HONEY BUSH PROCESSING DEMONSTRATION

The Honey bush processing retort demonstration, attended by Mr Anton Bredell, Western Cape Minister of Local Government, Environmental Affairs, and Development Planning, alongside Mr Andrew Stroebel, Executive Mayor

of the Garden Route Municipality, showcased an innovative processing unit developed by the ARC. This event aligned with national policy and strategic frameworks focused on rural development, agricultural innovation, and economic empowerment, which form the basis of ARC's key priorities. The project primarily targets local farmers, small-scale processors, and community-based enterprises involved in Honey bush production. By demonstrating scalable technology, the project has positively impacted these stakeholders by enhancing their processing capacity, improving product quality, and creating new economic opportunities. This supports local livelihoods and contributes to regional economic growth, positioning Honey bush as a valuable agricultural commodity within the Garden Route and beyond.



From left: Western Cape Minister of Local Government, Environmental Affairs, and Development Planning, Mr Anton Bredell, celebrates the progress made in enhancing the honeybush industry with Mr Andrew Stroebel, Executive Mayor of the Garden Route Municipality and Prof. Bongani Ndimba, Senior Manager of Infruitec-Nietvoorbij.

PORTFOLIO COMMITTEE OVERSIGHT VISIT

The Portfolio Committee's oversight visit aligns with several key national policy and strategic frameworks that guide the ARC's work and strategic direction. Central among these is the National Development Plan (NDP) 2030, which emphasises sustainable agricultural development, , and sector transformation. Additionally, the ARC's activities are aligned with the DALRRD Strategic Plan, focusing on enhanced productivity, competitiveness, and rural development. The oversight visit allowed the Committee to assess how the ARC's mandate and programmes contribute to these national goals, particularly in addressing food security, supporting smallholder development, and advancing agricultural innovation.

Outcomes of the oversight visit include strengthened accountability and transparency regarding the ARC's performance and resource use. The Committee gained first-hand insights into the ARC's operational environment, challenges, and impact on sector development. This led to a better appreciation of how the ARC's work supports service delivery, sector competitiveness, and transformation. The engagement also helped to reinforce the importance of sustained government investment in agricultural research and development to ensure a resilient, inclusive, and high-performing agricultural sector.



Members of the Portfolio Committee on Agriculture interacting with ARC staff, observing research infrastructure, and gaining insights into operational challenges and the ARC's contribution to agricultural development, service delivery, and transformation.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

JOURNAL ARTICLES

- Allsopp, E., Erasmus, T., Mathulwe, L.L. & Stokwe, N.F. 2024. Efficacy of a Local Isolate of *Metarhizium pinghaense* Against Females of *Margarodes prieskaensis* (Homoptera: Coccoide) in Field Trials, published in the S. Afr. J. Enol. Vitic., Vol. 45, 75 - 80, online <https://doi.org/10.21548/45-2-6505>.
- Belay, Z. A., Nkomo, M., Mohamed, G., Ntsoane, M. L., & Caleb, O. J. (2025). Effects of acidic and alkaline electrolyzed water treatments on the volatilomics and proteomics changes in fresh-cut apple during storage. *Sustainable Food Technology*. DOI: 10.1039/d4fb00318g.
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PLANT HEALTH AND PROTECTION

The ARC-Plant Health and Protection (ARC-PHP) has a main campus at Roodeplaat, northeast of Pretoria, as well as satellite campuses at Cedara (KwaZulu-Natal) and Vredenburg (Western Cape). The business unit has the mandate to provide extensive and specialist knowledge of the organisms that threaten agricultural crops and plants in natural environments, to protect arable land, water resources, natural biodiversity, and food security.

Research is focused on promoting economic and environmentally acceptable management strategies for pests, and plant diseases and invasive plants, as well as developing and implementing fast and accurate diagnostic services for all matters relating to plant health in the agricultural sector.

The following strategic assets are maintained on behalf of the State:

- The National Collections of Arachnids, Fungi, Insects and Nematodes
- The South African Rhizobium Culture Collection
- The Plant Pathogenic and Plant Protecting Bacteria Culture Collection
- Plant Virus and Antisera Collection
- Biological control quarantine facilities
- Live collection of alien invasive control agents
- National registered diagnostic plant health laboratories.

These assets also form the basis of the Campus' strategic plan and turnaround strategy with the objective to develop sustainable agricultural solutions and are critical to on-going research and the delivery of essential services to the agricultural sector.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 2: SUSTAINABLE ECOSYSTEMS AND NATURAL RESOURCES

WEED CONTROL STRATEGIES FOR EFFECTIVE MANAGEMENT OF FAMINE WEED

The annual herb *Parthenium hysterophorus* (Asteraceae: Heliantheae) originating from Central and South America, invades land used for grazing, crop production and biodiversity conservation. Due to allergenic properties, it also impacts on human and animal health. Infestations cause severe economic losses globally, with some 50 countries invaded by *P. hysterophorus*, including South Africa. It is commonly referred to as parthenium weed globally, and locally as *famine weed*. Its prolific seed set, rapid growth, and allelopathic properties enable it to outcompete native

vegetation, particularly under high levels of soil disturbance such as in intensive and subsistence agricultural production systems (crops and animals).

Biological control (hereafter biocontrol) is a recognised cost-effective method for the sustainable, long-term management of this invader, involving the use of selected and evaluated host-specific natural enemies (biocontrol agents) from the native range of the plant to reduce its level and extent. Five introduced biocontrol agents are present on *P. hysterophorus* in South Africa, but additional agents are required to increase suppression of the plant.

The research project on the '*Development of management practices for famine weed (Parthenium hysterophorus) in severely invaded grazing areas*', has one of the objectives as the importation and evaluation of the host specificity of the root-crown boring moth *Carmenta* sp. nr. *ithacae* (Lepidoptera: Sesiidae) to assess its suitability for release in South Africa to aid the biological control of *P. hysterophorus*. The two specialists responsible travelled to Queensland,

Australia from 28 May to 10 June 2024 (including travel dates) to survey and collect in the field a starter culture of *Carmentis* sp. nr. *ithacae* from its introduced range. The moth was originally imported into Queensland, Australia from its native range of Mexico in the 1990s and released there during the 2000s. On this occasion, curation techniques amended from earlier collections in 2014 and 2018 resulted in the successful collection of 1012 uprooted *P. hysterophorus* plants with signs of *C. sp. nr. ithacae* larval activity from 14 field sites in south-east and primarily Central Queensland. These uprooted *P. hysterophorus* plants were carefully curated en route, packaged to seal them for transit, and imported into quarantine at ARC Cedara. Adult moths began emerging immediately on importation, with a robust starter culture of 1918 moths. A breeding culture of the moth has since been established in quarantine.

The moth is a promising biocontrol candidate due to its damage caused to *P. hysterophorus* and range of habitats and conditions occupied. It remains to be seen from further research ahead whether it will be sufficiently host specific to be suitable for release in South Africa. Biocontrol of famine weed will not only increase agricultural productivity but will also restore biodiversity.

RELEASE OF A YELLOW BELLS (TECOMA STANS) BIOCONTROL AGENT (MADA POLLUTA) AT UMKHOMAZI IN KWAZULU-NATAL

The Department of Environment, Forestry and Fisheries (DFFE) of South Africa has acquired funds from the Global Environment Facility (GEF) through the United Nations Environment Programme (UNEP) for a project entitled, "Capacity strengthening for management of invasive alien species (IAS) in South Africa to enhance sustainable biodiversity conservation and livelihoods improvement". Among the DFFE's service providers is the Weeds Research Unit of ARC-PHP which was contracted to develop and release biocontrol agents for six priority invasive plant species. The release of a yellow bells (*Tecoma stans*) biocontrol agent (*Mada polluta*) on the 25 November 2024 at Umkhomazi in KwaZulu-Natal served as an official launch

of the GEF 7 project. The event, organised by the DFFE and ARC-PHP, was done at SAPPI-owned land near Umkhomazi Town (30°12'22" S; 30°46'52" E). Important dignitaries who attended the event included the Task Manager (Ms Jane Nimpamya) of UNEP: GEF who is based in Nairobi (Kenya), ward Councillor 99 of eThekweni Municipality (Ms Jane Naidoo), representatives from Ezemvelo Wildlife, SAPPI, the KZN Department of Economic Development and Tourism (KZN) and the local traditional authorities. The release of 3400 *Mada polluta* adults was led by the researcher, Dr L.G. Madire of ARC-PHP who developed the biocontrol agent more than 10 years ago. The event highlighted the important contribution done by the Weeds Biocontrol Unit of ARC-PHP in the fight against alien invasive plants in South Africa. The participation of various sectors of the society raised public awareness about the threat of biological invasion to the ecosystem while highlighting the importance of biocontrol in managing invasive alien plants. Biocontrol of yellow bells will restore biodiversity in the natural ecosystem.

INDIGENOUS RHIZOBIA TO REDUCE INPUT COSTS FOR CYCLOPIA PRODUCTION

Honeybush Tea (*Cyclopia*) is an indigenous beverage legume that grows in the mountainous and sandy soils of the Western Cape. This plant is very important for its tasty and delicious tea with additional health benefits. The plant receives organic nitrogen biofertilizer by the process of biological nitrogen fixation, and no farmer uses additional external input of chemical nitrogen fertiliser. However, thus far only one strain of beta rhizobia (*Burkholderia* sp. CI3) is available as an inoculant in the SARCC. There is thus the urge to look for more effective and additional nitrogen fixing strains for this important legume. Considering this, a field trip was undertaken in November 2024 to Uniondale, Herold and Harlem areas near George in the Western Cape to collect soil samples from the *Cyclopia* (honeybush tea) farms that grow four species of *Cyclopia*. From the sampled soils, 12 new indigenous rhizobia were isolated and will be tested for nodulation in the glasshouse for selection of new effective strains of rhizobia for *Cyclopia* species that will assist to improve the production and market for honeybush tea.

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

SERVICE DELIVERY HIGHLIGHTS

Hundreds of diagnostic and analytical services were rendered to enhance resilience to the farming sector. Samples brought from around the country included soil and plant material. Soil samples were brought for soil microbial load, enzyme activity and community level physiological profiling as indicators for soil health. Other soil samples and plant material (seeds, leaves, roots, and whole plant) were brought for diagnostic services for plant diseases, nematodes, insects and spider mites.

Additionally, Rhizobium inoculant products and Biofertiliser products were brought for quality control and shelf-life test to determine the colony forming units and contamination levels according to the requirements of Registrar of Act 36 of 1947. This service facilitates the commercialisation of south African products, which is key for the economic development and reducing the levels of unemployment.

To address smallholder constraints in terms of access to resources such as technology, information and training, PHP Plant Health has provided diagnostic services and training of farmers and extension service officials through plant mobile clinics. This has made a huge difference to small-holder farmers by allowing access to services that are far from them and unaffordable. Mobile clinics were held in three community centres at seven villages (Mbahela, Mutshendzheni, Maraxwe, Mianzwi, Tshiombo, Matangari, Matombotswuka) in the Vhembe district of the Tshiombo irrigation scheme.

During these plant clinics 19 ARC and LDARD officials were present. The first plant clinic was held in Mbahela at the Mbahela shed while the second one was hosted in Mianzwi at the Mianzwi shed. The third plant clinic was hosted at

the Matangari multipurpose centre in Matangari. The plant clinics were a great success as a total number of 296 small holder farmers who brought diseased plants for diagnosis and soil samples for soil health analysis, were assisted. Where possible immediate advice was given, and samples taken for further analysis. The results were reported timeously for farmers to act.

As the country is struggling with biosecurity matters, mobile clinics have a positive contribution as it provides not just awareness but opportunities of rapid response before serious outbreaks are experienced. Additionally, the mobile plant clinic was showcased during the ARC's participation in the "South African Emergency Plant Pest Response Plan" workshop held in White River.

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

ARC COLLECTIONS CONTRIBUTING TO THE COMMERCIALISATION DRIVE

ARC is a house for insects, viruses, bacteria, and fungi collections that are nationally and internationally recognised. They are natural assets and natural resources that need to be well maintained and functioning. The collections are for both non-desirable and beneficial organisms. Taking advantage of the beneficial organisms through bioprospecting has resulted in ARC registering one patent of fungal strains this year. This is an indirect contribution to the fight against poverty and unemployment. Non-desirable insects, plant pathogens, weeds, and nematodes trigger considerable crop failures, as nearly as 10 000 insects, 30 000 weeds, 1 000 nematodes, and 100 000 microbial species. This has a great impact on the economy and food security. Our collections support SMMs towards commercial applications based on strains from the National Collections on campus..

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following

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Brandt, S., Lyle, R. & Sole, C. 2024. The phylogeography and diversification of an endemic trapdoor spider genus, *Stasimopus* Simon 1892 (Araneae, Mygalomorphae, Stasimopidae) in the Karoo, South Africa. *Ecology and Evolution*, 2024; 14:e70621.

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TROPICAL AND SUBTROPICAL CROPS

Established in 1926, the ARC-Tropical and Subtropical Crops (ARC-TSC) campus, situated in Mpumalanga's capital city, Mbombela, has been serving the tropical and subtropical crops industries nationally and internationally for almost 100 years. The campus has five satellite research stations across the Limpopo, Mpumalanga, KwaZulu Natal and the Eastern Cape provinces, representing all major subtropical areas in the country. Its mandate crops include avocado, banana, citrus, coffee, guava, litchi, mango, macadamia nut, passionfruit, papaya, pineapple, pecan nut, indigenous and exotic fruit crops ginger, herbs, medicinal plants, and essential oil crops.

Research and development activities conducted at the ARC-TSC focus on the development of sustainable crop production systems of tropical and subtropical crops through breeding, biotechnology, horticultural practices, pest and disease management, as well as postharvest technologies and agro-processing opportunities for both the commercial and developing agricultural sector. The ARC-TSC is the custodian of field gene banks spread across several research farms in the country, viz. Levubu (Limpopo), Burgershall, Friedenheim and Mbombela (Mpumalanga), Hluhluwe (KwaZulu-Natal), Addo (Eastern Cape) and Bien Donné (Western Cape). These germplasm sources are critical resources for the subtropical fruit and nut breeding programmes.

Analytical and diagnostic services are an integral part of the ARC-TSC's services for growers, academia, and the internal research community. These include soil, medium and water analysis, nematode, disease and virus diagnostics services, as well as tissue culture and genetic fingerprinting services. In addition, the ARC-TSC's Crop Protection Division performs an essential biosecurity function for the citrus industry (overseen by the Department of Agriculture, Land Reform and Rural Development, Directorate of Plant Health). This service provided by the ARC-TSC protects the South African citrus industry from the introduction of foreign pests and diseases.

Over the years, the ARC-TSC built strong relationships with various national and international universities and research institutions to stay abreast with the latest technologies and enhance its research outputs through collaborative projects. The campus also actively engages with numerous stakeholders from both the private and public sector. These partnerships are paramount for the short and long-term benefits to the ARC.

As the critical link between research and farming practices, extensive technology transfer is provided by the ARC-TSC through extension and advisory services as well as training courses for smallholder and commercial growers, rural farming communities, as well as students from various tertiary institutions. These services and courses cover cultivation and plant propagation practices, pest and disease management, as well as postharvest and agro-processing technologies of the mandated crops.

As such, the work of the campus is aligned with the following outcomes of the ARC:

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY

OUTCOME 3: IMPROVED NUTRITIONAL VALUE, QUALITY, AND SAFETY OF AGRICULTURAL PRODUCTS

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

The campus made significant progress in the delivery of the mandate of the ARC during the 2024/25 financial year. This annual report presents highlights of the key achievements of the campus that contributed towards addressing smallholder constraints by providing access to formal and informal training and promoting agro-processing and value-adding of highly perishable subtropical fruit crops to uplift rural communities.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 3: IMPROVED NUTRITIONAL VALUE, QUALITY, AND SAFETY OF AGRICULTURAL PRODUCTS

A FOCUS ON AGRO-PROCESSING TO EXTEND SHELF-LIFE AND PROMOTE FOOD SECURITY IN THE AGRICULTURAL SECTOR

Maintaining a sustainable food production system in the country relies on a number of inter-related factors from having equitable access to high quality planting material, to improved horticultural practices for optimum production under changing climatic conditions to proper storage facilities to ensure that the shelf-life of products are maintained until it reaches consumers. For example, fruit such as litchi, guava and mango are highly perishable with deterioration occurring within a few days of harvest. In order to prolong the shelf-life of such highly perishable crops, post-harvest storage facilities are critical with intact cold chains from starting from farms to markets. This can be a challenge in rural areas where such co-ordinated networks are often inaccessible or unavailable. The inability to properly store harvested fruit leads to significant amounts of spoilage and loss of income to farmers.

Agro-processing represents a vastly underexplored avenue that can be harnessed to process fresh produce to extend shelf-life and reduce spoilage and loss. The importance of agro-processing is embedded within the Agriculture and Agro-processing Master Plan (AAMP) which represents a social compact developed by government, business, labour and civil organisations to build equitable, sustainable and functional agriculture and agro-processing sectors. Although the AAMP has been released, there continues to be minimal implementation of the goals of this plan. Therefore, considering the above, as well as the challenges inherent in fresh produce losses in the country due to spoilage, the ARC undertook to host a two-day event in the village of Ha-Masia in the Limpopo province to bring attention to the advantages of agro-processing to local farmers and stakeholders. The selection of this location was deliberate as this region of the country is known to produce

large amounts of mango, litchi and other crops and is also characterised by high levels of produce spoilage. Therefore, this region could benefit greatly from agro-processing enterprises to address this challenge. In addition, growers and other role players in the more rural regions of the country are often excluded from such opportunities yet the greatest needs reside in these locations.

Considering this need, the ARC campuses came together to host the agro-processing exhibition at the Masia Multipurpose Resource Centre in Ha-Masia, Limpopo, on 26 and 27 February 2025. The goal was to showcase the potential of innovative and sustainable agro-processing techniques to create new opportunities for emerging farmers to drive job creation and boost the rural economy. Participants were exposed to an array of agro-processed products ranging from traditional dried fruit (mango, litchi and banana), coated dried fruit and nuts (dark chocolate coated dried mango and macadamia, desiccated coconut coated macadamia nuts) and macadamia oil. Other processed products exhibited included sweet potato products (flour, rusks, chips and juice), moringa products (powder, capsules and pasta), wines, jams, tea, honey and honey products and dairy products (yoghurt, cheese, feta and haloumi infused with herbs). There were also non-food products such as essential oils extracted from herbs such as rosemary, lemongrass and lavender. These essential oils can also then be used to make infused soap, bath salts, and other products. Participants were shown how essential oils were extracted from herbs and received hands on training on the day to make their own infused soaps – this was a major attraction.

The event was open to local processors as well, with a local farmer exhibiting their moringa products and Greenfarms exhibiting macadamia products (nuts, oil and briquettes). The event was covered in various radio, print and television broadcasts which lead to participation of more than 120 local farmers, more than 60 stakeholders as well as attendance of a local agricultural college (Madzivhandila College of Agriculture). Farmers expressed great interest in the products exhibited and were particularly keen to learn more about environmentally friendly options such as the use of solar driers for drying fruit. It is important for the ARC to continue to promote such events, especially in marginalised areas that traditionally do not get opportunities for exposure to the outcomes from R&D programmes.



Demonstrating the mango drying process to exhibition participants.

OUTCOME 4: A SKILLED AND CAPABLE AGRICULTURE SECTOR

STRENGTHENING TECHNOLOGY TRANSFER FOR THE MANAGEMENT OF PESTS AND DISEASES TO ENSURE FOOD SECURITY

The management of crop diseases and insect pests can have a large impact on agricultural productivity. Several native and exotic pests and diseases affect subtropical crop production, causing considerable damage. These pests and diseases are impacting on rural livelihoods, economic development and biodiversity across production areas. Currently, not enough is done to provide farmers with the latest information on identification and management of pests and disease of tropical and subtropical crops, particularly in rural areas. Therefore, the ARC-TSC has initiated a DoA-funded project to address the lack of adequate training in pest and disease identification and control. The project beneficiaries are crop advisors from DARDLEA as well as smallholder, emerging and commercial farmers.

The project is a concerted effort between the ARC, which provides the training, and the Provincial Departments of Agriculture, which assist with organising farmers days and scouting courses. At the farmers days, the ARC staff from the pathology, entomology and nematology divisions can also provide diagnostic services for farmers that bring samples for inspection and subsequent identification of the causal agent. When necessary, the samples can be taken to the ARC diagnostic laboratories (pathology and nematology) for isolations and analyses to confirm the diagnosis. Theoretical and practical training in pest and disease identification and management will enable these farmers to identify, monitor and manage the important pests and diseases on their crops. Training of crop advisors



Some of the products displayed at the agro-processing exhibition at the Masia Multipurpose Resource Centre in Ha-Masia. Top left: soaps, bath salts and candles made from essential oil herbs; bottom left: products made from honey; right: indigenous herbs and medicinal plants.

of the Provincial Department of Agriculture will provide them with sufficient knowledge to deliver better extension services to farmers.

Since the commencement of this project, seven farmers days were held where crop advisors, emerging and commercial farmers were trained on pests and diseases of either mango, avocado or litchi. During the farmers days, the participants also visited orchards where they were taught on how to identify pests and diseases in the field. Monitoring of pest and disease as well as control recommendations were also discussed in depth. Three training manuals were developed and are available for free to assist crop advisors and farmers in identification of pests and diseases of avocado, mango and litchi. Two free mobile applications for avocado and mango have been developed and a third one for litchi will be completed by the end of 2025. These will assist crop advisors, emerging and commercial farmers with the identification of pests, diseases and beneficial arthropods. Furthermore, a presentation about the scope of this project and the services offered by the ARC-TSC was held at the SUBTROP Transformation Summit in May 2024, which was attended by many commercial and emerging farmers.



Explaining to emerging farmers on how to scout for insect pests.

MOBILE APPLICATIONS EMPOWER FARMERS AND CROP ADVISORS TO LOCATE, IDENTIFY AND DETERMINE THE SEVERITY OF PEST AND DISEASE INFESTATIONS IN AVOCADO AND MANGO

Scouting is the foundation of an effective IPM strategy ensuring timely, targeted, and sustainable pest and disease management that protects crops, the environment, and farm profitability. IPM requires competence in three areas: prevention, monitoring and intervention.

The ARC developed two mobile applications for avocado and mango and a third one for litchi will be completed by the end of 2025, which enable farmers and crop advisors to quickly identify pests and diseases in the field using their mobile devices, enabling faster and more informed decision-making. The applications also help users distinguish between pests and beneficial insects.

The mango application provides information on:

- How to scout in mango orchards;
- Pests: identification, significance, life cycle, monitoring, and management;
- Diseases: symptoms, causal organisms, and management;
- Disorders: symptoms, causes, and management; and
- Damage: symptoms, causes, and management.

The avocado application provides information on:

- How to scout in avocado orchards;
- Pests: importance, identification, life cycle and monitoring;
- Diseases: causal agent, epidemiology, and symptoms; and
- Beneficial Arthropods: importance.



Farmers days on avocado and litchi pest and disease identification and management were held in Bushbuckridge (left) and Malalane (right). Similar farmers days were held for mango in Mpumalanga.

PART B: PERFORMANCE INFORMATION

In addition to supporting sustainable farming practices, the applications contribute to capacity building and serve as valuable educational tools for farmers, students, and extension officers by providing scientifically accurate and up-to-date information. They enable the early detection of pest and disease outbreaks and help to prevent widespread

crop losses. By improving pest management, these tools can enhance both yield and crop quality, supporting export readiness. These mobile apps are available for free downloading, making them accessible to all users, including smallholder and emerging farmers, regardless of financial means.

AvoPDI

Agricultural Research Council

ZA Made ID 10+ Downloads Rated for 3+ ID

Install Share Add to wishlist



MangoPDDDI

Agricultural Research Council

ZA Made ID 100+ Downloads Rated for 3+ ID

Install Share Add to wishlist



AvoPDI (left) and MangoPDDDI (right) mobile applications for pest, disease and disorder identification and management in avocado and mango.



KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

JOURNAL ARTICLES

Acosta, Y., Companioni, B., Escalante, D., Zevallos-Bravo, B.E., Pérez-Bonachea, L., Chmielarz, P., Hajari, E., Neinhuis, C., Melzer, M., Lorenzo, J.C. 2024. Scanning electron microscopy reveals contrasting effects of liquid nitrogen on seeds of legumes *Neonotonia wightii*, *Phaseolus vulgaris* and *amarindus indica*. *Acta Physiologiae Plantarum*.

Entensa, Y., Lorente, G., Pérez-Bonachea, L., Ynchausti, J.R., Martínez, J., Zevallos-Bravo, B.E., Companioni, B., Hajari, E., Acosta, Y., Pritchard, H.W & Lorenzo, J.C. 2025. Exposure of carrot seeds to cryopreservation increases root weight and decreases levels of cell wall-linked phenolics. *Cryoletters* 46: 135- 142.

Hernández, L., Lorente, G., Companion, B., Martínez, B., Escalante, D., Zevallos-Bravo, B.E., Hajari, E., Acosat, Y. & Lorenzo, J.C. 2024. Mild NaCl stress increases protein and nitrogen contents of common bean (*Phaseolus vulgaris*) grains. *Vegetos*.

Grove, T. 2025. Investigating the potential of a systems approach for false codling moth, *Thaumatotibia leucotreta* (Lepidoptera: Tortricidae) and fruit flies (Diptera: Tephritidae) on 'Hass' Avocado. *African Journal of Agricultural Research*. Vol. 21(1), pp. 40-55

Martel-Ortiz, D., González-De Zayas, R., Concepción, O., Escalona, M., Hajari, E., Lorenzo, J.C. & Hernández-Fernández, L. 2024. In vitro culture of *Consolea millspaughii* subsp. *millspaughii* (Cactaceae): A critically endangered species. *Vegetos*.

CONFERENCE PROCEEDINGS

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VEGETABLES, INDUSTRIAL AND MEDICINAL PLANTS

For the ARC to achieve its constitutional mandate under a resource-constrained environment, it needed to undertake measures geared towards effective and rational resource utilisation. As part of the resource rationalisation initiative, the ARC took a decision to evaluate the feasibility of amalgamating campuses with similar R&D products and within a manageable geographic distance. As part of this initiative, the ARC-Industrial Crops (ARC-IC) Campus at Rustenburg was amalgamated with the ARC-Vegetable and Ornamental Plants (ARC-VOP) Campus at Roodeplaat. The name of the new business unit is the ARC-Vegetables, Industrial and Medicinal Plants (ARC-VIMP).

The ARC-VIMP Campus conducts innovative, needs-driven, applied, and adaptive research, and environmentally friendly research and technology development on commercial vegetables, African leafy vegetables, medicinal (including medicinal cannabis), and industrial crops, such as cotton, tobacco, hemp, flax, kenaf, cassava and sisal. Research involves a variety of disciplines, including crop science, agronomy, crop protection, breeding, genetics, biotechnology, agro-processing, and product development. The aim is to conduct research and technology development and transfer for improving the productivity, competitiveness and sustainable production of vegetables, as well as industrial and medicinal plants for the agricultural industry.

The nutrient content of vegetables is a key factor in addressing malnutrition and the campus plays a significant role in the development of models for food and nutrition security. The ARC conducted an impact study of vegetable research, and it was determined that for every R100 invested in vegetable research an improvement of R140 was realised in the industry, which clearly demonstrates the importance of vegetable research for South Africa. The breeding programmes focus on the development of cultivars with improved resilience against agricultural risks, including improved drought tolerance, pest and disease resistance, as well as increased quality, including nutritional quality and yield. It also maintains the genetic resources of the mandated crops as national assets. Crop Sciences focuses on the development of propagation and sustainable production systems for vegetables, industrial and medicinal plants, identifying crops with good water use efficiency and development of water and nutrient efficient production systems. Agro-processing and new product development from medicinal plants, indigenous/African vegetables, and industrial crops is a key programme of the campus. The crop protection research focuses on the development of integrated pest and disease management mechanisms for economically important pests and diseases of vegetables, industrial and medicinal plants. The campus delivers several services to the industry, including diagnostic analyses and feasibility studies, training and enterprise development and rural development.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

OUTCOME 1: INCREASED AGRICULTURAL PRODUCTION AND PRODUCTIVITY.

NOVEL AND EXISTING CROPS DEVELOPED AND EVALUATED - NEW CULTIVARS SHOW PROMISE AND PROVIDE OPPORTUNITIES.

INDUSTRIAL HEMP

Following the growing trend towards acceptance and decriminalisation of the cultivation of industrial hemp, the market demand for a wide range of innovative and novel products from cannabis has also increased. An example of potential market advantage is the use of the durable soft fibre from hemp stem in the textile industry as it is considered stronger and more durable than competitors like cotton. Additionally, hemp's high nutritional value also opens up the nutrient market for hemp derived milk, seeds and oils for human consumption, but also for animal feeds.

In line with its pioneering spirit, the first research permit for hemp research in South Africa was obtained by the ARC, resulting in the breeding of two new hemp cultivars, popularly known as SA Hemp 1 and 2. Both cultivars are undergoing cultivar registration and are uniquely adapted to the traditional hemp production areas of South Africa, i.e. Eastern Cape, Western Cape and some areas in KwaZulu Natal. The next step in the ARC's hemp journey was aimed at addressing the shortage of available propagation material through a mass seed multiplication project. ARC-VIMP in collaboration with DALRRD and other ARC campuses initiated the seed multiplication project of the ARC cultivars on three sites in the Western Cape, i.e. Stellenbosch, Robertson and Oudtshoorn. Of the three sites, the most prolific seed production was achieved at the Stellenbosch and Oudtshoorn sites where a combine total of more than 700 kg seeds were harvested. The newly procured hemp decorticator and grain cleaner was used to prepare these seeds for storage.



Seed multiplication site at the ARC Infruitec-Nietvoorbij – from planting to harvesting).



ARC researchers testing the new decorticator.



The ARC hemp team cleaning seed from the hemp seed production trials.

In addition to evaluation of yield and quality of hemp germplasms under different day length conditions, it is also important to evaluate local and imported genetic resources for adaptability and production potential in non-traditional hemp production areas in South Africa, i.e. Gauteng, Mpumalanga, Limpopo, Northern Cape, North West and Free State provinces. Hence, ARC employees visited several research/experimental farms to determine their suitability for cultivar evaluation trials. Land availability, water availability, and security were among assessment criteria. Eighteen hemp evaluation trials (nine for fibre and nine for seed production) were planted across various provinces of South Africa. Several factors impacted on the success rate of the different sites, i.e. damage cause by birds and nematodes as well as unfavourable weather conditions. Generally, it was confirmed that the day length had a significant effect on the performance of the varieties. All varieties performed well under longer day-length conditions as experienced at traditional hemp growing areas, Addo (Eastern Cape) and Bien Donne (Western Cape).

Although preliminary, the results already indicate that hemp production might be viable in most provinces of the country. Since day length can be considered as the major factor determining variety performance in a specific area, farmers should ensure that the variety/cultivar to be planted is adapted to the area's specific climatic conditions. Evaluation trials will be repeated routinely at an increased number of sites and with additional varieties as the ARC's arsenal of hemp-cultivars grow. Demonstration trials in different provinces are available on request and will mainly involve agronomic research.



Cultivar evaluation trials demonstrating cultivar differences in growth)

Underutilised legumes

Underutilised legume crops, such as Bambara groundnut, cowpea, chickpea and pigeon pea, are mainly grown by subsistence farmers for their use as leafy and seed vegetables or as grain for human consumption and animal feed. With their unique characteristics including tolerance to biotic and abiotic stresses, these crops have shown the ability to adapt to an array of diverse agro-ecological growing environments that include marginal lands. Their inherent genetic variability can be exploited in crop improvement programs to improve their yield, as well as nutritional quality. Legumes are a good source of plant-based proteins and essential amino acids which play an important role in the quality of life as human food and animal feed. Additionally, legumes improve the soil fertility through nitrogen fixation, which lead to increased production and productivity of downstream crops.

Apart from the nutritional value, underutilised legumes can also play an important role in addressing obesity, preventing chronic diseases such as diabetes and cancer and also be a vital ingredient in the management of these diseases through dietary inclusion. Several plant parts can be utilised, e.g. grains, immature fruits, and leaves. Dried leaves are rich in protein, minerals, oils, and starches.

This project focuses on the identification of suitable candidate parental lines through evaluation and characterization. The development of new populations are driven by the use of agro-morphological, nutritional and genetic studies to improve agronomic traits and enhance nutritional quality of food ingredients aimed at nutritional and health security.

The ARC research team, in collaboration with the provincial extension officers identified various sites across South Africa to allow for farmer participation in variety selection. Participation of farmers and communities is an essential cog in the process of effective selection of varieties that will gain public acceptance.



Farmer engagement and site selection with the DALRRD officials for variety selection.

Sweet potatoes

Participatory variety selection also plays an integral role in the sweet potato program of the ARC where the ARC sweet potato and advanced elite breeding lines are evaluated on farmer's fields to identify the best performing varieties for production. This vital process involves farmers in the selection before or after release of variants from the program and gather their inputs based on field performance and consumer acceptability through sensory evaluation.

A total of eight sweet potato demonstration trials were harvested from different locations (Boksburg Correctional Centre in Gauteng, the Eikenhof Agripark in Gauteng, the Taung experimental farm in the North West, Tshiombo in Limpopo; Kgomo in the North West, Cofimvaba in the Eastern Cape, ARC-TSC (Mbombela) in Mpumalanga and KwaNongoma in KwaZulu Natal) on farmers' fields and/or provincial research stations to evaluate their yield performance, adaptation, stability and consumer acceptance.

Across these sites, 12 sweet potato varieties were planted and evaluated by farmers and/or consumers to identify their most preferred variety for production and consumption. Evaluated varieties included the ARC cream- and orange-fleshed cultivars, imported varieties and the newly released cultivars from the breeding program. The purple-fleshed variety (Purple purple) was also included to promote this "unusual" sweet potato type, which is rich in antioxidants and anthocyanins, which may improve the immune system. The different varieties were promoted for food security and a nutritionally balanced diet.

A total of 297 participants were involved in the field evaluation and taste assessments during harvesting across the six provinces. Almost 90% of the participants were farmers, with 45% being female. All participants took part in the field evaluations to assess the yield potential, variation in skin colour, flesh colour, grading for the market and the taste assessments of the cooked roots from the selected varieties. Additionally, participants were also trained on identification of damage caused by weevils or animals. Participants were also given basic training on sweet potato product development using orange-fleshed types. Products made included, orange-fleshed sweet potato (OFSP) juice, doughnuts and crispy chips.

It was interesting to note the variation in consumer acceptance for the purple-fleshed variety, Purple Purple. The unique and unusual flesh colour brought some curiosity amongst the farmers and consumers, with others questioning its originality (i.e. GMO or not). However, almost all participants from KwaNongoma liked the taste and indicated that the appearance needs some adjusting to, while those from Gauteng did not like the appearance at all. In all localities different individuals had different preferences, but yield performance and commercialization were the main deciding factors for farmers.



Sweet potato harvesting, taste assessment and product development at the Boksburg Correctional Centre and at the Eikenhof Agripark (COJ) in Gauteng.)



Sweet potato information day and taste assessment at farm in Cofimvaba, Eastern Cape.



Sweet potato taste assessment at Makhado in Limpopo.



Sweet potato harvesting, variety evaluation and taste assessment at the Taung experimental farm and farmer's field in Kgomo Kgomo, North West.

Novel tomato cultivars

Tomatoes hold a significant place in global horticulture, being cherished for both their fresh and processed forms due to their delightful taste and health benefits. In the realm of fresh market tomatoes, growers pay close attention to various attributes like colour, size, shape, flavour, and nutritional value. When it comes to processing tomatoes, the focus shifts to specific biological characteristics and contents, including solid-soluble content, sugar levels, lycopene, total solids, and total soluble solids. A range of factors, including resistance to fruit cracking, blossom end rot, fruit density upon ripening, skin pigmentation,

and juice yield, play a crucial role in creating diverse tomato processing products. The tomato pre-breeding program has embarked on a strategic endeavour aimed at broadening the gene pool of the ARC tomato collections through germplasm acquisition from local (living seeds or farmer landraces) and international gene banks (the World Vegetable Centre). The acquisition of the germplasm is important for breeding, as it lays the groundwork for future improvement of tomatoes through breeding. The program currently has 82 tomato germplasm collections, including six new local collections. These germplasms will serve as a valuable avenue for developing new parent phenotypes and others will be used in hybridization for enhancement and to boost gene heterozygosity and broadening the gene pool/ genetic diversity. The future tomato breeding program, targets improvements in fruit quality, size, precocity, yield, plant structure, and resilience against pests and diseases, while also adapting to various environmental conditions. Achieving these breeding goals relies heavily on germplasm collections, breeding value data, and insights from both phenotypic and genotypic evaluations.



Distinct colours and shapes of some of the tomato germplasm collections of the ARC

OUTCOME 3: IMPROVED NUTRITIONAL VALUE, QUALITY, AND SAFETY OF AGRICULTURAL PRODUCTS

FROM PRODUCT DEVELOPMENT TO SENSORY EVALUATION – KEEPING UP WITH THE TASTES OF THE CONSUMER THROUGH THE AGRO-PROCESSING VALUE CHAIN.

Agro-processing research teams of ARC-VIMP are continuously developing products and engaging with the public to gauge how the products align with consumer preferences and tastes. Through formal and informal sensory evaluations, products from indigenous and/or underutilised crops are brought to the attention of the public as nutritional, healthy and affordable alternatives to established commercial food sources. In similar fashion, new cultivars of commercial vegetables, e.g. sweet

potatoes and tomatoes, and their related products are also evaluated in terms of consumer acceptance.

Informal consumer tasting of Moringa tea was conducted at the ARC stall at the NAMPO Harvest Expo 2024 in Bothaville. Moringa tea infused with fresh fruits and mint, served as a cold beverage, as well as Moringa tea flavoured with ginger and cinnamon were favoured for taste, flavour and aroma. With their interest in Moringa piqued, consumers inquired about the availability of other Moringa products (powder, capsules and tea bags) that were presented at the stall with some eager to place orders for products. The Moringa product market continues to expand and there is a need to consider marketing some of the developed product prototypes in exhibition spaces such as NAMPO before considering commercialising the products.



NAMPO exhibition and tasting of the developed Moringa and sweet potato prototypes.

The agro-processing team also targeted their colleagues and visitors to ARC as valuable sources of consumer information at various key exhibitions and company events.

Prototype products such as beetroot cactus juice, Moringa, orange-fleshed sweet potato and cassava buns were formulated and exhibited at the ARC Wellness Day that was held on 31 May 2024. The team had the opportunity to conduct an informal consumer sensory evaluation session of the developed prototypes. The beetroot cactus juice was prepared with and without the addition of lemon. Addition of lemon improved the sensory attributes of the juice in terms of taste and aroma and was the most preferred juice prototype. The juice without lemon was considered to be too sweet for some of the consumers.

Moringa buns were the most preferred buns in terms of taste and texture. The colour of the buns was indicated by consumers to need improvement, as they were not visually appealing. Moringa buns incorporated with orange-fleshed sweet potato had a visually appealing appearance (colour) and preferred texture, but their taste was not favoured by the consumers. The colour of the cassava-chia seeded buns was the most appealing visually and the consumers liked the taste. However, the texture of the buns was not appealing to the consumers.



Informal consumer sensory evaluation session of developed product prototypes.

Based on the feedback received from the Wellness day, the agro-processing team focused on further refinement and expanding of the products with the dual goals of enhancing taste profiles and to introduce new, nutritious products. A sensory evaluation was conducted for all products, with ARC employees serving as participants. To this end, the Moringa buns were reformulated to improve flavour balance to remove earthy aftertaste and enhancing the texture. The addition of raisins to the cassava-chia seed buns enhanced the overall flavour and texture. This modification was aimed to improve the taste, while maintaining the bun's nutritional content and visual appeal.

In addition, jams and sweets were developed from purple-fleshed and orange-fleshed sweet potato varieties with a clear aim to retain their vibrant colour and nutritional benefits (high in antioxidants).



Moringa and cassava raisins buns.



Purple-fleshed sweet potato jam and sweets from both purple- and orange-fleshed varieties.

In the sensory evaluation, the jam was generally enjoyed. In the informal consumer feedback, participants highlighted that the texture of the jam needed improvement to be smoother and more spreadable. This will guide further formulation adjustments.

The purple sweet potato imparted a subtle, earthy flavour, adding a unique twist to the traditional hard candy. The final product had a smooth texture and was visually appealing, making it a memorable treat during a special event, reflecting creativity and natural essence. The candy produced from orange-fleshed sweet potato had a bright, warm colour and a distinct yet mild flavour, adding to its unique taste. The candy's smooth texture and vivid orange hue made it stand out, and it was well-received for its natural flavour profile. The results showcased the candy's appeal through its vibrant appearance and subtle sweetness. These candies were showcased at a Women's Day Conference and were appreciated for their creativity and uniqueness.

The coloured tomato breeding program conducted sensory evaluations during a farmers field day at the ARC on 16 January 2025, with the purpose of enabling them to evaluate each variety's flavour, texture and scent, while discussing the unique qualities, including sweetness, acidity and juiciness. Farmers were also able to compare the market appeal of the various coloured tomatoes, which gave them important information about customer preferences. To help inform future breeding and production choices, participants were invited to provide inputs on the types they liked best. To further promote the coloured tomatoes, the agro-processing division assisted in developing value added coloured tomato products, including tomato flakes, canning, sauces, pastes and juices. Thus, encouraging farmers to tap into this industry and explore the possibilities that product development could bring in the South African context.



Sensory evaluation set-up.



Different coloured tomato value-added products which the farmers got to explore.

COMMITMENT TO VISIBILITY – PUTTING HEALTHY NUTRITION AT THE FOREFRONT!

Under the Medicinal Plants and Industrial Crops (MPIC) division, the agro-processing Team successfully exhibited various innovative, health-promoting products at high-profile events in March 2025. These exhibitions highlighted the team's commitment to functional foods, sustainability, and postharvest value addition.

ARC-VIMP Symposium & G20 Expo

During the 17th Annual Agriculture Research Symposium, hosted by the Gauteng Department of Agriculture and Rural Development (GDARD), the team exhibited moringa products, medicinal plants, sweet potato-based food items, and essential oil-infused candles. Experts engaged in discussions on innovation in agro-processing, postharvest preservation, and market-driven product development.

At the G20 Expo, the team expanded its exhibition to include indigenous medicinal plants such as African potato and cancer bush, along with essential oils and novel food products made from orange-fleshed sweet potato, including jams, crisps, flour, pickles, rusks, and juice. Hemp-based cosmetic product such as hemp hair food was also introduced, demonstrating the versatility of industrial crops.



ARC exhibitions where the agro-processing team participated.

In October 2024, the Portfolio Committee, CEO, and ARC guests attended an exhibition held at the ARC. They were impressed by the exhibited products which they got to taste, and some attendees were interested in buying the products.



Exhibition of agro-processing products at the Portfolio Committee.

Products that were developed as part of DALRRD-funded projects were exhibited at the ARC: DALRRD Technical Committee meetings held in October and November 2024. For each event, the delegates were requested to contribute to an informal consumer survey of the products which were evaluated based on taste, aroma, texture, and visual appeal. Their insights into pricing, consumer preferences, and market potential laid the groundwork for targeting specific markets effectively.



Sensory evaluation of cactus pear-infused lemonade during the ARC: DALRRD Technical Committee meeting.

EXHIBITION OF VALUE-ADDED PRODUCTS DURING THE ARC: DALRRD TECHNICAL COMMITTEE MEETINGS.

Lastly, two DALRRD officials, visited the agro-processing facility for monitoring and evaluation of the project titled 'Survey and mapping of indigenous fruit, vegetables and medicinal plants in nine Provinces of South Africa, characterisation of nutritional value of indigenous fruit and vegetables and active ingredient analysis of medicinal plants'. During their visit, they had the opportunity to taste the chai latte and were impressed by its delightful taste and aroma.



Product exhibition to DALLRRD officials as part of the project titled 'Survey and mapping of indigenous fruit, vegetables and medicinal plants in nine Provinces of South Africa, characterisation of nutritional value of indigenous fruit and vegetables and active ingredient analysis of medicinal plants.

Overall, the exhibitions that the agro-processing team contributed towards are intended to showcase the versatility of indigenous and commercial crops, as well as medicinal plants and the potential market that the ARC can contribute towards through IP generation and the training of farmers on product development.

EMPOWERMENT OF SMMEs DRIVES THE COMMERCIALISATION OF NUTRITION-PACKED TUBER VEGETABLES

A project funded by the Technology Innovation Agency (TIA) aims to support the **commercialisation** of orange-fleshed sweet potato (OFSP) products by empowering small, medium, and micro-enterprises (SMMEs). The high levels of provitamin A (carotene) exhibited by OFSP are utilised to ensure food safety, quality, and market readiness, while combatting vitamin A deficiency. The team developed various OFSP-based products at a laboratory scale, including pasta, flakes, porridge, and puree, which were shared with SMMEs for their formulation selection.

Product evaluations of OFSP pasta and flakes were conducted with 130 participants, revealing a strong consumer acceptance of OFSP pasta, with 86% of the participants expressing a willingness to purchase it. Feedback indicated areas for the improvement of OFSP flakes to enhance consumer satisfaction. These evaluations were carried out at the ARC-VIMP's Sweet Potato Agro-processing Unit, the Tshwane University of Technology, and in the industrial areas of Polokwane. Importantly, partnerships were established with the Centre for Entrepreneurship at TUT (Polokwane Campus) and the TVET College (Senwabarwana Campus). A Memorandum of Understanding (MOU) was signed with the North Carolina State University, and agreements were signed with Sinnovatek for localizing microwave processing technology.



Product evaluation was conducted at the ARC Sweet Potato Agro-processing Unit, the Tshwane University of Technology, and in the industrial areas of Polokwane.

Training sessions were conducted for primary producers on nursery management and sweet potato cultivation in the North-West and KwaZulu Natal. A total of 12 farmers were trained on sweet potato cultivation for product development at Amanzimtoti in KwaZulu Natal. The training was meant to capacitate farmers contracted by Sibocali Foods, an SMME selected for OFSP agro-processing. Training provided included detailed production guidelines of the crop, nutritional value, as well as cultivar choice for agro-processing and the fresh market. Sibocali is processing OFSP into baking flour and sweet potato chips for income generation.



Farmer training at Sibocali Foods in Amanzimtoti, KZN.

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Farmers were also trained on cassava and amadumbe production, because the enterprise is also developing products from these two tuber crops. During training, farmers and extension officers were shown how to process sweet potatoes into OFSP doughnuts and juices to enhance knowledge sharing and readiness amongst stakeholders. Nutritionally dense OFSP products can help combat vitamin A deficiency and improve health, particularly in vulnerable populations. Additionally, it provides opportunities for job creation and economic development in underserved areas by empowering SMMEs. Positive feedback from consumers during market testing indicates that OFSP products have the potential to be scaled-up and penetrate a wider market.



Sweet potato, cassava and amadumbe products developed at Sibocali Foods.

ANALYTICAL SERVICES ENHANCE AGRICULTURAL SAFETY AND PRODUCTIVITY

Productivity and profitability of a farming practice depends on knowing the fertility status of the soil and making appropriate nutritional amendments. The process of determining soil fertility involves a series of tests on the chemical, physical and biological properties of the soil. The analytical laboratories of the ARC-VIMP in Rustenburg provides support to the agricultural community in the North West province and surrounding areas, by evaluating the quality (chemical and physical properties) of soil and making recommendations on the fertiliser amendments to avoid over-fertilisation and reduce unnecessary fertiliser costs. The team provides additional analytical services to a broad range of clients (Universities, research institutes, commercial farmers, small-scale farmers, South African communities, and tobacco processors and manufacturers):

- Soil testing for inorganic nitrogen (N-NO_3 and N-NH_4), phosphorus, cations (calcium, magnesium, potassium and sodium), micro elements (copper, iron, zinc and manganese), particle size determination, pH, sulphur, organic carbon and acidity;
- Irrigation water analysis for pH, alkalinity, conductivity, cations and sulphur;
- Plant analysis for nitrogen, phosphorus, potassium, calcium, magnesium, micro elements and sulphur;
- Compost and manure analysis and
- Tobacco analysis for chloride, nicotine and sugar.

KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

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Mampholo, B., Mokgehle, S, Araya, N.A., Mofokeng, M., Makgato, M., Nyakane, N.E., Bairu, M., Truter, M., Mahlangu, R., Du Plooy, C.P., Nciizah, A.D., Araya, H.T. 2024. Climate change resilient crops to combat food and nutrition insecurity in marginal lands. In: *The marginal soils of Africa. Rethinking uses, management and reclamation*, AD Nciizah, A Roopnarain, B Ndaba, ME Malobane (Eds). Springer Nature, Switzerland

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RESEARCH SUPPORT & COORDINATION

The Research Support and Coordination (RSC) Division plays a leading role in enabling the translation of the ARC's R&D outputs, and the transfer of technology for impact at scale in the agricultural sector. By fostering cross-campus collaboration, managing and protecting intellectual property, driving commercialisation and business development, coordinating sector development, and integrating socio-economic dimensions into challenged research, the Division contributes to ARC outputs and achievement of the organisational mandate. Furthermore, these efforts enhance the ARC's visibility, financial sustainability, thought leadership, and strengthening national and international partnerships.

Comprising six interlinked units, the division facilitates partnerships, coordinates strategic initiatives across campuses, and ensures that research outputs are translated into actionable knowledge to support evidence-based decision-making. The RSC Division is based at Central Office but operates strategically across all campuses nationwide. Performance outputs include scientific and popular publications, advisory and statistical services, licensed technologies, revenue generation, trained people and international partnerships.

Agricultural Economics conducts evidence-based research to demonstrate ARC impact and integrates socio-economic analysis into ARC projects. Specialisation areas include market intelligence, policy and gender analysis and impact assessment.

Agrimetrics derives value from data, amalgamating agricultural and biological data analysis to generate information that shapes decision-making. It conducts farm assessment and statistical analysis, as quality audit of ARC information disseminated.

Sector Development and Support coordinates training and advisory services, which enables knowledge and information dissemination to users of agricultural R&D. It also packages ARC technologies for enterprise development and commercial transition.

Intellectual Property Management and Commercialisation ensures that R&D outputs are protected, managed and commercialised for the benefit of the ARC and the sector.

International Relations aims to enhance the ARC's credibility by promoting our capabilities, through strategic partnerships and engagements globally.

In coordinating the **DALRRD–ARC Service Level Agreement**, the Division facilitates the increased investment in agricultural R&D, targeting priorities such as biosecurity, climate change, resource management, plant and animal health and biodiversity conservation.

Establishing physical and virtual **ARC Centres of Excellence (CoEs)** fosters collaboration across organisations and disciplines, concentrating expertise and resources for impactful, long-term research.

RESEARCH HIGHLIGHTS FROM THE 2024/25 FINANCIAL YEAR

POLICY SUPPORT FOR SUSTAINABLE LAND USE

The Preservation and Development of Agricultural Land Act (PDALA) was signed into law in January 2025. The ARC was awarded a contract under the DoA-SLA to develop norms and standards for PDALA and additionally the Conservation of Agricultural Resources Act (CARA), supporting sustainable land use in South Africa. Key achievements

this year include defining land thresholds for commercial, smallholder, and supplementary farms, based on revised enterprise commodity standards for 11 agroecosystems. A case study across four former homelands, provided insights into communal land allocation and use. This informed agricultural income thresholds and appropriate arable plot sizes per agroecosystem. During the year, the DoA requested the project to be rescoped to a five-year initiative which contributes to the AAMP and informs policy on sustainable

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land use. The project secured approximately R1.98 million in external income for the year. In addition, ARC Economists hosted a workshop at the AEASA conference interrogating the development of norms and standards for PDALA, based on sustainable agricultural development and agro ecological principles.

STATISTICAL AND ADVISORY SERVICES

Statistical services were delivered to 185 ARC projects (target: 160), through 1 830 consultations (target: 1 300) during the year. The Division conducted 1 327 consultations with external clients, surpassing the 1 300 target. Biometricians reviewed 62 scientific publications against a target of 60 and delivered 24 conference presentations. Seven farm assessments were completed. The Division collaborated with Government, agricultural and farmer organisations to co-create solutions tailored to community needs. It co-hosted and presented at 10 farmers days (vs target of 8). Knowledge and skills gained from these interventions empowers farmers to make informed decisions in optimising livelihoods and instils confidence to adopt new practices in risk-averse communities.

KNOWLEDGE GENERATION

The Division made a significant contribution to organisational performance, with a total of 17 peer reviewed scientific publications, 36 popular articles, and 25 conference presentations. The conferences included the annual conference of the Agricultural Economics Association of South Africa (AEASA), the South African Society for Animal Science (SASAS), and South African Society for Agricultural Extension Annual Conference (SASAE). At the AEASA conference, a publication co-authored by an ARC Economist awarded second prize for the best scientific publication in the Agrekon journal.

In collaboration with the World Bank and EcoHealth Alliance, RSC hosted a “*Masterclass on Economics of One Health*” in a side event of the 8th World One Health Congress held in Cape Town in September 2025. This event was a first and attracted the interest of several international participants. The ARC in partnership with other organisations organised a webinar in preparation for the 21st IFOAM Organic World Congress. The webinar on “*Advancing Agroecology and Organic Production for Sustainable Agriculture*” held in November 2024, brought together experts and stakeholders to discuss sustainable agricultural practices and challenges in transitioning to agroecology. Speakers shared experiences and recommendations for overcoming obstacles and highlighted the importance of awareness, policy frameworks, and market access.



Organisers of the Interactive Masterclass on Economics of One Health, Webinar on Agroecology invitation.

SKILLS DEVELOPMENT

Responding to the demand for ARC’s specialised training services, the RSC trained 85 (vs the targeted 60) extension officers during the year, including officials from Limpopo in August 2024 on Advanced Extension Skills, and North West in September 2024 on the Extension Big Five programme. Together with the campuses, RSC also trained 30 officials from Limpopo on Climate-Smart Agriculture Fruit and Vegetable Production during the year. Partnering with the Chinese Academy of Agricultural Sciences (CAAS), RSC organised training for officials, farmers and researchers on Climate Smart Agriculture for Poverty Alleviation during December 2024 at the VIMP Training Centre.



ARC and CAAS co-hosted a CSA workshop 11-13 December 2024 in Pretoria.



Officials at the Extension Big Five course and Demonstrations during CSA training.

COORDINATION OF THE DOA–ARC SERVICE LEVEL AGREEMENT AND CENTRES OF EXCELLENCE

The Department of Agriculture has since 2022 formalised by a Service Level Agreement (SLA) with the ARC, which resulted in increased public investment for agricultural R&D for targeted key priority projects across the country. The agreement enables science-based policy development, strengthens the ARC's research capacity, and fosters collaboration to address national challenges and ensure food and nutrition security, and sustainable agriculture. More than 270 projects were funded to date, supporting regulatory functions and the Agriculture and Agroprocessing Master Plan (AAMP). Governance structures, including technical and steering committees oversee progress, through regular reporting and review meetings. Eight technical Committee meetings between ARC and the Department of Agriculture were organised every six months, making a total of 16 meetings in the year. Two Steering Committee meetings were also organised to enable strategic oversight for the implementation of the projects and discussing alignment with national priorities.

ARC Centres of Excellence (CoEs), which are being developed in both physical and virtual forms, foster collaboration across organisations and disciplines, concentrating expertise and resources towards impactful research. In 2024/25 significant progress was made towards establishment of the following CoEs; Climate Smart Agriculture; Broadening the food base (Sustainable food systems); Indigenous Knowledge Systems, Biogas, Seed Systems Development, Integrated Rangeland Systems and One Health and Biosecurity. Through the Centres of Excellence, many projects are being implemented with Universities, Provincial Departments and the Private Sector. Up to eight Universities were engaged to establish research chairs linked to the CoEs and for MSc and PhD student training. By clustering related projects under thematic areas and engaging diverse stakeholders, the CoEs have become catalysts for transformation and innovation in the sector.

NATIONAL AND REGIONAL DIALOGUES TOWARDS THE G20 MACS

Following the successful inaugural ARC-DALRRD research conference held in February 2024, the conference proceedings were finalised in the year under review. These proceedings highlighted agreed upon priorities for the national research agenda based on input from industry, commodity bodies, provinces, farmer organisations and academia. The priorities also informed the proposals for the G20 Meeting of Agriculture Scientists (MACS) thematic focus areas. ARC and the Department of Agriculture in collaboration with the Food, Agriculture, Natural

Resources, Policy Analysis Network (FANRPAN) organised a G20 Agriculture National Dialogue on 18 March 2025, and four continental African dialogue events to consult on the proposed thematic focus areas. The highly successful national dialogue brought together diverse agriculture sector stakeholders in South Africa and presented an opportunity for broad inclusivity in the G20 agriculture process.



G20 Agriculture National Dialogue held at VIMP Campus on 18 March 2025.

INTELLECTUAL PROPERTY MANAGEMENT AND COMMERCIALISATION

ARC successfully implemented benefit sharing during this year for the first time, in accordance with the Intellectual Property Rights from Publicly Financed Research and Development Act (2008). This reflects the ARC's commitment to recognising innovation, rewarding research excellence, and promoting a culture of innovation. Another key highlight was the granting of Plant Breeders' Rights to the ARC's first-ever cannabis varieties. This follows years of dedicated research and coincides with recent legislative developments that enables exploration of the potential of cannabis in agriculture, health, and industry. The registered varieties position the ARC at the forefront of cannabis research in South Africa. It lays the foundation for expanding the ARC's cannabis portfolio to meet evolving market demands, creating new opportunities for commercialisation and development, particularly in smallholder communities. In addition, ARC secured plant breeders' right for two mango and one pear cultivar, strengthening the intellectual property portfolio and contributing to crop diversification and food security. New IP applications filed include a trademark application for mango, a plant breeders' rights application for sweet potato, and a patent application for an entomopathogenic fungi as biological control measure for insect pests, an innovation aimed at sustainable and environmentally friendly agriculture. Beyond protection, efforts continued to advance commercialisation of ARC intellectual property

assets. Licensing activities were sustained across a broad range of technologies, including yeast strains, wheat, oats, and forage crops, fungal strains and fynbos horticulture. Commercialisation efforts generated R41.2 million in revenue from license agreements. ARC contributed to the Competition Commission's Fresh Produce Market Inquiry, providing insights, and advocating for equitable and transparent practices in agricultural value chains.

STRATEGIC INTERNATIONAL PARTNERSHIPS AND INITIATIVES

The Division established new international partnerships and engaging a broad network of stakeholders to promote the ARC's R&D capabilities. A significant milestone was the signing of a Memorandum of Understanding (MoU) with the Chinese Academy of Agricultural Sciences (CAAS) in July 2024, during the visit of CAAS Vice President. This partnership encompasses a range of areas, including crop breeding (with a focus on drought-tolerant varieties), climate-smart agriculture, horticulture, animal breeding, veterinary medicine, and agricultural waste management. Concurrently, the ARC joined the China-Africa Agricultural Science and Technology Innovation Alliance (CAASTIA) as a founding member, strengthening ties with both CAAS and the African Academy of Sciences. As part of this collaboration, the ARC and CAAS co-hosted a climate-smart agriculture and poverty alleviation workshop in Pretoria in December 2024, targeting government extension officers, farmers, and technicians.



ARC and CAAS signing an MoU on 3 July 2024

Additionally, the ARC formalised a bilateral partnership with

Algeria's National Institute of Agricultural Research through an MoU signed in December 2024. The agreement covers potato germplasm exchange, pest and disease management, training, water management, genetic improvement, animal production, food safety, and technology transfer.



Signing of an MoU with the National Institute of Agricultural Research of Algeria (INRAA).

The ARC also played a prominent role at the 10th Science Summit at the United Nations General Assembly (SSUNGA79) in September 2024, both virtually and in-person. It hosted six virtual sessions on topics ranging from indigenous knowledge systems and disease reduction to climate-smart agriculture and youth involvement in food security. In New York, ARC representatives contributed to discussions on supporting Africa's science and innovation leadership for achieving the Sustainable Development Goals (SDGs), including leading a session on innovation to combat hunger and poverty in Africa.



ARC participated in the Science Summit sessions in New York.

As a member of the TSARA (Transforming food Systems and Agriculture through Research in Partnership with Africa) partnership with France, the ARC remained actively involved in steering committee work, seminars, and the establishment of an External Advisory Committee. The ARC also participated in the TSARA General Assembly in Paris in early 2025, reinforcing its role in shaping collaborative agricultural research agendas.

The ARC continued to participate in the high-level EU-funded “Consortium Europe-Africa on Research and Innovation for Food Systems Transformation (CEA-FIRST)” project, together with 19 other partners from Europe and Africa. The project, coordinated by the Forum for Agricultural Research in Africa (FARA), organised the first General Assembly for the bi-continental International Research Consortium (IRC) in Brussels in March 2025. The ARC was recognised as a founder member. Throughout the year, the CEO also participated in meetings of the Working Group of the AU-EU High Level Policy Dialogue on Food and Nutrition Security and Sustainable Agriculture (FNSSA). In March 2025, the ARC delegation also met the Deputy Head of Mission in the SA Embassy in Brussels to create awareness about the ARC’s work and strengthen relations for future EU partnerships.

The Division continues to contribute to continental engagements such as the Knowledge Management for Agricultural Development (KM4AgD) with FARA, and

ongoing initiatives of the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA). Other strategic continental partnership projects include the EU-funded DIVAGRI project, addressing productivity and sustainability challenges in smallholder systems through introducing seven bio-based technologies tailored to African conditions. The ARC is one of 19 European and African R&D organisations in the consortium. Implementation of a collaborative project to develop capacities for climate smart agriculture continued with the University of Eswatini and Zambia College of Agriculture, funded by the German Corporation for International Cooperation (GIZ).

Overall, ARC has strengthened its global partnerships, showcased its leadership in agricultural innovation, and contributed meaningfully to international efforts aimed at food systems transformation and sustainable agriculture through research and innovation pathways.



KNOWLEDGE DISSEMINATION

Some of the knowledge dissemination interventions for 2024/25 included the following:

JOURNAL ARTICLES

Buhlebemvelo Dube., Nokuthula Khulu., Lesedi Mokoena., Solly Molepo., Lucas Moswane & Joseph Kau 2025. Assessing the impact of climatic factors on the trade performance of South African maize commodity, Vol 9, No 2.

Dube, B., Khulu, M., Mokoena, L., Molepo, S., Moswane, L. and Kau, J. 2025. Assessing the Impact of Climatic Factors on the Trade Performance of South African Maize Commodity. Journal of Infrastructure, Policy and Development, Vol. 9 (2) <https://doi.org/10.24294/jipd9471b>.

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INFORMATION AND COMMUNICATION TECHNOLOGY & INFRASTRUCTURE

The Facilities Management Framework and plan have been updated to enhance our organisation's facilities and infrastructure services by improving operational efficiency, resource allocation, and maintenance processes. These updates were applied across all departments and sites, resulting in streamlined workflows and increased productivity. As part of this plan, national support contracts for key services in facilities were established to enable the division to respond promptly to all service requests, ensuring support for core lines of business.

The Facilities Division also developed a National Property Management and Maintenance Plan to provide a comprehensive approach to managing and maintaining ARC's various national facilities. As part of the property management plan, the ARC appointed a national property management agency to optimise unused ARC land and

infrastructure to generate external income for self-sustainability and maintenance, allowing ARC's operational budgets to focus on supporting ARC's core line of business. The ARC also conducted a power assessment to prioritise renewable energy and energy-saving measure projects in response to the increased electrical cost and load-shedding. An asset retagging and verification process was carried out to ensure all assets were recorded, and redundant or broken assets were disposed of and removed from the floor.

Additionally, the ARC has completed several infrastructure investment projects, including solar installations, procurement of new farm equipment, generator replacements, upgrades to the ARC fleet, building refurbishments, and key infrastructure maintenance.



Solar Solution at NRE



GC Roof Refurbishment and Painting



CO - Office Furniture.



AP -New Generator.



New Vehicles for all ARC Sites.



OVR – Upgraded “Chicken Kraal”.



OVR - New Generator.



SG - New Tractor.



VIMP – Security Entrance upgrade.



SCW – New Roof Analytical Services.

Pictures of some key infrastructure investment projects completed in 2024/25

SECURITY

During the reporting period, the ARC implemented a comprehensive upgrade to both the physical and electronic security systems at the VIMP Center of Excellence. This initiative demonstrates the organisation’s dedication to advancing security measures and maintaining exemplary standards in safeguarding its personnel, assets, and operations.

Phased Implementation of High-Security Fencing

A multi-layered security approach was adopted, with a focus on strengthening the inner perimeter through a phased installation of high-security fencing. This advanced fencing system features difficult-to-climb and difficult to cut-resistant technology, providing a formidable barrier against unauthorised access while supporting early intrusion detection. The transparent design not only maintains a secure environment but also facilitates enhanced

surveillance and rapid security response.

Key benefits of the fencing upgrade include:

- Significantly improved resistance to physical breaches, offering robust protection for critical infrastructure.
- Enhanced monitoring capabilities due to the transparent structure, which allows security personnel to detect and respond to threats swiftly.
- Deterrence and delay of unauthorised intrusions.
- Contribution to business continuity by fostering a safe environment for employees and visitors.

Integration of Electronic Access Control Systems (EACS)

To complement the physical security barrier, the integration of an Electronic Access Control Systems were integrated directly into the fencing infrastructure. The EACS leverages

secure access card technology for real-time authorisation, ensuring that only approved personnel, visitors, and contractors gain entry to designated zones. System features include:

Access management and real-time tracking of movements throughout the Campus.

- Automated attendance records and streamlined coordination during emergency evacuations, improving both efficiency and safety.
- Comprehensive audit trails.
- Deployment of Intruder Detection and Armed Response Solutions
- Further elevating the security posture, the deployment of intruder detection system has transformed threat detection and incident management across various institutes. These systems provide:

- Immediate identification of potential security breaches, enabling swift intervention and minimising opportunities for criminal activity.
- Comprehensive, 24/7 security coverage, strengthening operational resilience against evolving threats.
- The successful implementation of these innovative security enhancements marks a significant milestone in the ARC's ongoing efforts to secure its facilities. The integrated and phased approach through security layering of physical barriers, electronic access controls and intruder detection systems, not only addresses present-day security challenges but also positions the VIMP Center of Excellence at the forefront of facility protection. These improvements have elevated the overall sense of safety and confidence among staff and visitors, supporting the continuity of core business operations and the ARC's legislative mandate.



VIMP FENCING

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GOVERNANCE





GOVERNANCE

1. INTRODUCTION

The ARC was established in terms of the Agricultural Research Act, 1990 (Act No. 86 of 1990 as amended by Act No. 27 of 2001) and is the principal agricultural research institution in South Africa. It is a Schedule 3A Public Entity in terms of the Public Finance Management Act, 1999 (Act No.1 of 1999 as amended by Act No. 29 of 1999).

The Council of the ARC embraces the highest standards of corporate governance, transparency, accountability, responsibility and integrity in respect of its oversight duties over the discharge of the ARC's legislative mandate. The Council is always cognisant, in exercising its oversight, of the policy ideals and imperatives envisioned in the National Development Plan Vision 2030, which recognises that South Africa needs to spend more time on research and development in general, but that the institutional setup needs to improve the link between innovation and business requirements. Whilst ensuring that the ARC embeds the section 27 (1) (b) Bill of Rights, entrenched in the Constitution of South Africa, which relates to the right of everyone to have sufficient food and water, the Council ensures that the strategies, policies, and plans of the ARC institutionalise the commitment of its members, management and staff to the enhancement of research and development within the agricultural sector.

The PFMA and its National Treasury Regulations remain the

guide and reminder to the Council of the authority vested in it and the duties imposed on it to ensure that the ARC's operations serve and are managed sufficiently to support the objects of the PFMA, namely, to secure transparency, accountability, and sound management of revenue, expenditure, assets and liabilities. The Council has ensured that the peremptory duties and obligations placed on it through the PFMA and its Treasury Regulations are codified and embodied in a Shareholder Compact with the Minister.

The Charter of Council, which is in line with the expectations of the PFMA and the Act, was approved for the reporting year. Council has established the following Committees and ensured that their Terms of Reference have been reviewed in compliance with the PFMA, the Act and, where applicable, principles espoused in the King IV Code, the Companies Act, and common law:

- The Finance, Investment, ICT Governance and Infrastructure Committee;
- The Human Resources and Remuneration Committee;
- The Research, Development and Evaluation Committee;
- The Audit and Risk Committee; and
- The Social, Ethics and Governance Committee

2. PORTFOLIO COMMITTEE

During the 2024/25 financial year, the following engagements were held with the Portfolio Committee:

ITEM	DESCRIPTION	DATE	ATTENDED
1	Portfolio Committee Briefing by the ARC on the First Quarter Performance Reports for 2024/25 FY	17 September 2024	Ms Joyene Isaacs Dr Litha Magingxa (CEO)
2	Portfolio Committee Oversight Visit to the ARC	09 October 2024	Ms Joyene Isaacs Dr Litha Magingxa (CEO)
3	Portfolio Committee Briefing by the ARC on the 2023/24 Annual Reports	09 October 2024	Ms Joyene Isaacs Dr Litha Magingxa (CEO)
4	Briefing of the Select Committee on Agriculture, Land Reform and Environment - ARC Introduction, mandates, and responsibilities	19 November 2024	Ms Joyene Isaacs Dr Litha Magingxa (CEO)
5	Portfolio Committee Briefing by the ARC on the Second Quarterly Performance Report for 2024/25 FY	26 November 2024	Ms Joyene Isaacs Dr Litha Magingxa (CEO)
6	Briefing on the 2024/25 Q3 Performance & Expenditure Reports and progress on implementation of Audit Improvement Plans by the ARC	11 March 2025	Ms Joyene Isaacs Dr Litha Magingxa (CEO)
7	Portfolio Committee Oversight visit to ARC Infruitec/Nietvoorbij	26 March 2025	Ms Joyene Isaacs Dr Litha Magingxa (CEO)

3. EXECUTIVE AUTHORITY

The Shareholder Compact and the APP for the reporting year was submitted to the Executive Authority in February 2024.

The Quarterly Performance Reports were submitted to the Executive Authority as follows:

1. First Quarter Performance Report was submitted on 31 July 2024;
2. Second Quarter Performance Report was submitted on 30 October 2024;
3. Third Quarter Performance Report was submitted on 30 January 2025; and
4. Fourth Quarter Performance Report was submitted on 30 April 2025.

4. THE ACCOUNTING AUTHORITY/COUNCIL

INTRODUCTION

THE IMPORTANCE AND PURPOSE OF THE COUNCIL

The main role of the Council is to provide management oversight and planning of the affairs of the ARC which, subject to the provisions of the Agricultural Research Act, determine the policy and objectives of the ARC and exercise control generally over the performance of its functions, the exercise of its powers and the execution of its duties.

COUNCIL'S RESPONSIBILITIES AND ACCOUNTABILITY FOR THE PUBLIC ENTITY'S PERFORMANCE AND STRATEGIC DIRECTION

The statutory functions of the ARC Council are stipulated in the Agricultural Research Act. As such, the Council is the Accounting Authority and is responsible inter alia for the approval of prepared Annual Financial Statements that accurately reflect the ARC's financial position and results at the end of each financial year, which is set at 31 March each year.

As the Accounting Authority, the Council is responsible for approval of the Annual Performance Plan (APP), Strategic Plan and policies of the ARC, and for the setting of performance targets for the organisation. It is also accountable for all matters relating to the ARC, including, but not limited to, the performance of functions by the management of the ARC considering, amongst others, that the delegation of functions by the President and CEO does not absolve Council of its fiduciary responsibilities or financial and performance accountability. The Office of the Auditor-General is responsible for auditing the Annual Financial Statements of the ARC.

THE ROLE OF COUNCIL

In the governance of the ARC, Council is responsible for policymaking and control while the ARC President and CEO has been delegated responsibility for day-to-day execution of the policies and objectives, as directed by Council.

The members of Council are appointed by the Minister of Agriculture, Land Reform and Rural Development (the Minister) on the basis of their expertise in the fields of agriculture, business, financial management, law, research, technology development and technology transfer in the field of agriculture, as prescribed by the Agricultural Research Act. Council members are appointed for a maximum period of three years but are eligible for reappointment. With the exception of the President and CEO of the ARC, none of the members of Council hold an executive position in the ARC.

Council exercises full and effective control over the ARC and monitors its Executive Management Committee. Council may obtain independent professional advice if deemed necessary.

COUNCIL CHARTER

In compliance with best practice in corporate governance principles, and in accordance with the powers and authority delegated to it through the Agricultural Research Act, the PFMA, Treasury Regulations, and by the Minister, the Council of the ARC has defined its responsibilities and duties, which are recorded in a Council Charter.

The Charter also clarifies the authority delegated to the Chairperson and Management of the ARC, and defines the monitoring measures required to ensure the proper execution of delegated authority and the integrity of risk management and internal controls.

The Charter is reviewed annually.

COMPOSITION OF THE COUNCIL

NAME	DESIGNATION	DATE APPOINTED	DATE TERM ENDED	QUALIFICATIONS	AREA OF EXPERTISE	BOARD DIRECTORSHIPS	OTHER COMMITTEES OR TASK TEAMS	NO. OF COUNCIL MEETINGS ATTENDED OUT OF THE SCHEDULED 16
Ms Joyene Isaacs	Chairperson	1 July 2023 (Re-appointment)	Not applicable	Honours Degree in Plant Protection Bachelor of Science in Pathology	Research and management	ARC	None	16 Meetings April 2024– March 2025
Dr Konanani Liphadzi	Member	1 July 2023 (Re-appointment)	Not applicable	Doctor of Philosophy (Agronomy) Master's in Agronomy Master of Business Leadership (Financial Management) Honours Degree in Plant Production Bachelor of Agriculture (Crop Science) Management Advancement Program	Research	ARC	Research, Development & Evaluation Committee Human Resources and Remuneration Committee	16 Meetings April 2024– March 2025
Dr Naude Malan	Member	1 July 2023 (Re-appointment)	Not applicable	Doctor of Philosophy (Development Studies) Master of Arts (Development Studies) Bachelor of Arts (Hons) (Philosophy) Bachelor of Arts (Philosophy and Psychology)	Research	ARC	Social, Ethics & Governance Committee	16 Meetings April 2024– March 2025

NAME	DESIGNATION	DATE APPOINTED	DATE TERM ENDED	QUALIFICATIONS	AREA OF EXPERTISE	BOARD DIRECTORSHIPS	OTHER COMMITTEES OR TASK TEAMS	NO. OF COUNCIL MEETINGS ATTENDED OUT OF THE SCHEDULED 16
Dr Poncho Mokaila	Member	1 July 2023 (Re-appointment)	Not applicable	Master's in Business Administration	Research	ARC	Human Resources & Remuneration Committee	16 Meetings April 2024– March 2025
				Bachelor of Veterinary Medicine and Surgery (BVMCH) Post-graduate in Modules in Veterinary				
Mr Goodman Gcaba	Member	1 July 2023 (Re-appointment)	Not applicable	Master of Science (Forest Management)	Research	ARC	Finance, Investment, ICT Governance & Infrastructure Committee Audit & Risk Committee	16 Meetings April 2024– March 2025
				Master of Science (Agriculture) Master of Business Administration Bachelor of Science (Agriculture and Commercial Forestry)				
Dr Troy Govender	Member	1 July 2023	Not applicable	Doctor of Philosophy (Environmental Science)	Research and Public Relations	ARC	Social, Ethics & Governance Committee Research, Development & Evaluation Committee	16 Meetings April 2024– March 2025
				Master's in Environmental Management Bachelor of Technology (Public Relations Management) Bachelor of Science National Diploma (Public Relations and Communications) Graduate Diploma in Utility Management Education for Sustainable Development Leadership				

NAME	DESIGNATION	DATE APPOINTED	DATE TERM ENDED	QUALIFICATIONS	AREA OF EXPERTISE	BOARD DIRECTORSHIPS	OTHER COMMITTEES OR TASK TEAMS	NO. OF COUNCIL MEETINGS ATTENDED OUT OF THE SCHEDULED 16
Dr Jonty Tshipa	Member	1 July 2023	Not applicable	Doctor of Philosophy (Financial Management Science)	Human Resources, Research and Investment	ARC	Finance, Investment, ICT Governance & Infrastructure Human Resources & Remuneration Committee	16 Meetings April 2024– March 2025
				Master's in Finance and Investment Master of Business Administration Electrical Engineering Project Management in IT Global Remuneration Professional Global Executive Development Programme				
Dr Hilke Maartens	Member	1 July 2023	Not applicable	Doctor of Philosophy in Agriculture (Plant Breeding)	Agriculture	ARC	Research, Development & Evaluation Committee Social, Ethics & Governance Committee	12 Meetings April 2024– March 2025
				Master of Sciences in Agriculture (Plant Breeding) Bachelor of Science in Agriculture (Hons) Bachelor of Science				

NAME	DESIGNATION	DATE APPOINTED	DATE TERM ENDED	QUALIFICATIONS	AREA OF EXPERTISE	BOARD DIRECTORSHIPS	OTHER COMMITTEES OR TASK TEAMS	NO. OF COUNCIL MEETINGS ATTENDED OUT OF THE SCHEDULED 16
Dr Owen Horwood	Member	1 July 2023	Not applicable	Doctor of Philosophy in Social Science (Geography and the Environment) Master of Water Science, Policy and Management Master of Environmental Change and Management Master of Chemistry Bachelor of Science in Chemistry (Hons) Bachelor of Science in Chemistry and Economics	Research	ARC	Social, Ethics & Governance Committee Research, Development & Evaluation Committee	16 Meetings April 2024– March 2025
Ms Clarinda Simpson	Member	1 July 2023	Not applicable	Bachelor of Accounting Science (Hons) Bachelor of Accounting (Accounting) Diploma in Auditing	Finance	ARC	Finance, Investment, ICT Governance & Infrastructure Audit & Risk Committee	16 Meetings April 2024– March 2025
Mr Neo Masithela	Member	1 July 2023	Not applicable	Master's in Development Studies Honours degree in International Relations (Political Science) Bachelor of Arts (Management leadership) Post-graduate Diploma in Land and Agrarian Studies	Research and Agriculture	ARC	Finance, Investment, ICT Governance & Infrastructure Human Resources & Remuneration Committee	16 Meetings April 2024– March 2025

BOARD COMMITTEES

COMMITTEE	NO. OF MEETINGS HELD	NO. OF MEMBERS	NAME OF MEMBERS	NO. OF MEETINGS ATTENDED
Finance, Investment & ICT Gov & Infrastructure Committee	8	4	Mr Goodman Gcaba (Chairperson) Ms Clarinda Simpson Dr Jonty Tshipa Mr Neo Masithela	8 (Re-appointment) 7 (New term from July 2023) 8 (New term from July 2023) 8 (New term from July 2023)
Research, Development, and Evaluation Committee	5	4	Dr Konanani Liphadzi (Chairperson) Dr Troy Govender Dr Hilke Maartens Dr Owen Horwood	5 (Re-appointment) 5 (New term from July 2023) 2 (New term from July 2023) 5 (New term from July 2023)
Human Resources & Remuneration Committee	5	4	Dr Poncho Mokaila (Chairperson) Dr Konanani Liphadzi Dr Jonty Tshipa Mr Neo Harrison Masithela	5 (Re-appointment) 5 (Re-appointment) 5 (New term from July 2023) 5 (New term from July 2023)
Audit & Risk Committee	16	4	Ms Masaccha Mbonambi (Chairperson) Dr Kobus Laubscher Ms Tshidi Mokgabudi Ms Brigitte Schutte	15 (Term ended 31 May 2025) 15 (Re-appointment) 14 (Term ended 31 May 2025) 14 (Term ended 31 May 2025)
		2	Mr Goodman Gcaba Ms Clarinda Simpson	16 (New term from July 2023) 15 (New term from July 2023)
Social, Ethics & Governance Committee	4	4	Dr Naude Malan (Chairperson) Dr Troy Govender Dr Hilke Maartens Dr Owen Horwood	4 (Re-appointment) 4 (New term from July 2023) 2 (New term from July 2023) 4 (New term from July 2023)

REMUNERATION OF COUNCIL MEMBERS

The remuneration for Council Member is paid out of the funds of the ARC as determined and approved by the Minister in line with the circular issued by the National Treasury, Circular: 2022 Remunerations levels, wherein the National Treasury had approved a cost-of-living adjustment of 3% with effect from 1 April 2022. Below is the table indicating the rates payable:

NO.	CATEGORY, SUB-CATEGORY AND OFFICIAL DESIGNATION	MEETING PER DAY	MEETING FEE PER HOUR	BI-MONTHLY RETAINER FEE
1.	Chairperson of Council	Preparation: R5 387 Attendance: R5 387	R673	R10 774
2.	Vice-Chairperson of Council	Preparation: R4 578 Attendance: R4 578	R572	R9 156
3.	Member of Council	Preparation: R4 005 Attendance: R4 005	R501	R8 010
4.	Chairperson of Committee	Preparation: R4 005 Attendance: R4 005	R501	R8 010
5.	Member of Committee	Preparation: R4 005 Attendance: R4 005	R501	R8 010
6.	Chairperson of the Audit & Risk Committee	Preparation: R4 447 Attendance: R4 447	R555	R8 894
7.	Vice Chairperson of the Audit & Risk Committee	Preparation: R3 779 Attendance: R3 779	R473	R7 558
8.	Member of the Audit & Risk Committee	Preparation: R2 698 Attendance: R2 698	R337	R5 396

Other incidental expenses incurred by Members of Council are paid in line with the ARC's Subsistence and Travel Policy updated and approved by Council from time to time. The detailed remuneration, allowances and reimbursements of each Council Members is disclosed in Note 36 of the Annual Financial Statements.

OTHER EXPENSES

The ARC reimburses members of Council and its Committees for other expenses as outlined in below as per such allowable rate or as per receipt:

Incidental costs (sleep away from home):	R161 per day
Travel to meetings:	R4.64
Parking:	As per provided receipts
Toll gates:	As per provided receipts
Any other expenses:	As per provided receipts
Daily allowance for breakfast:	R100
Daily allowance for lunch:	R150
Daily allowance for dinner:	R180
Travelling outside the borders of RSA:	Prescribed amount applicable to the Authority (SARS guidelines)

Refer to Note Number 36 to the Financial Statements in respect of detailed remuneration fees, allowances and reimbursements paid to Members of Council.

5. RISK MANAGEMENT

The ARC has an established risk management process, which is captured and outlined within the organisation's formulated and approved Risk Management Strategy. Contained within this strategy, the ARC outlines its commitment to the undertaking of formal annual strategic risk assessments for purposes of identifying new and emerging risks, which may impede the achievement of the ARC strategic goals. From a governance perspective, the ARC has an established Corporate Enterprise Risk Management Committee (CERMC), comprising both Senior and Executive Management and representatives from the respective divisions/operations of the organisation. The Committee's key role is to advise management on the overall system of risk management within the organisation, which is inclusive of the mitigations of strategic risk exposures.

The organisation's Audit and Risk (A&R) Committee also plays a key role in advising on risk management processes and practices, which is further supported through the Internal Audit function who independently monitors and reports to the A&R Committee on the effectiveness of the entire risk management system. The ARC has, over the reporting period, realised varied levels of success, being ascribed to the minimisation of key strategic risk exposures, translating into an improvement in the ARC performance. The focus for the next financial year and beyond would be on devising and implementing risk minimisation strategies, aimed at reducing the resultant impacts posed by key strategic risk exposures for the benefit of enhancing the organisations performance.

6. INTERNAL CONTROL UNIT

Not applicable to the ARC

7. COMPLIANCE WITH LAWS AND REGULATIONS

The ARC is fully committed to comply with the provisions of the PFMA, 1999 (Act No. 1 of 1999). The internal and

external auditors continue to provide the Council with assurance on the degree of compliance with the PFMA.

8. FRAUD AND CORRUPTION

The ARC stance on fraud and corruption remains that of zero tolerance. The ARC focuses on preventative procedures in its fight against fraud and corruption. To this end all ARC employees undergo a two-step process to ascertain their suitability for employment and reduce the risk of fraud. All new employees undergo an initial pre-employment suitability check, which is followed by a comprehensive vetting process once the employee has been appointed. This process has already yielded results in identifying and dealing with employees who could have potentially defrauded the entity.

The Internal Audit function of the ARC runs a comprehensive annual anti-corruption awareness campaign in all ARC

campuses which ensures that all employees of the entity are made aware of the internal and external impact of fraud and corruption. ARC has an anonymous tip-off service independently managed by Deloitte and this Tip-offs Anonymous service provides an anonymous reporting channel for unethical behaviour in the ARC workspace.

All allegations received are investigated either by an independent forensic firm and/or internal audit; depending on the complexity of the allegations. Depending on the outcome of the investigation, disciplinary measures, civil and/or criminal action will be taken against implicated employees and third parties if found guilty.

9. MINIMISING CONFLICT OF INTEREST

The Code of Ethics and Business Conduct (Code) of the ARC stipulates employees should avoid conflict of interest as this may occur when personal interest of an employee or the interest of the third party competes with that of the ARC. ARC supports the prohibition of employees doing business with any organs of state (including the ARC), or of being a director of a public or private company conducting business with an organ of state. The code stipulates that all new employees and students in the ARC are required to disclose their interests within 30 days after assumption of duty; and all employees and students will be required to

disclose their interest on an annual basis, but not later than 30 April of each year.

These new measures assist the ARC in raising awareness of possible conflicts of interest for employees, and to avoid them. The ARC continues to raise awareness and to coach and guide employees on how to avoid conflicts of interest. Where such interests are identified, employees are engaged and, where appropriate, standard disciplinary steps are taken in terms of the code.

10. CODE OF CONDUCT

The Code of Ethics and Business Conduct (Code) of the ARC outlines expectations regarding employees' behaviour towards their colleagues, stakeholders, and when conducting any business of the ARC. ARC is committed to being always exemplary and in all respects, and for its work and conduct to be guided by the values outlined in the Code. The ARC expects employees to be ethical, responsible, and professional, and to fulfil their duties with integrity. The ARC builds a culture that encourages

employees to think and behave ethically by providing training and awareness through induction, security and fraud prevention and training sessions. These sessions are conducted continuously throughout all ARC campuses to always remind and reinforce the ethical conduct of employees. The ARC will take disciplinary action in terms of its disciplinary code and procedure against employees who repeatedly or intentionally fail to follow its Code.

11. HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

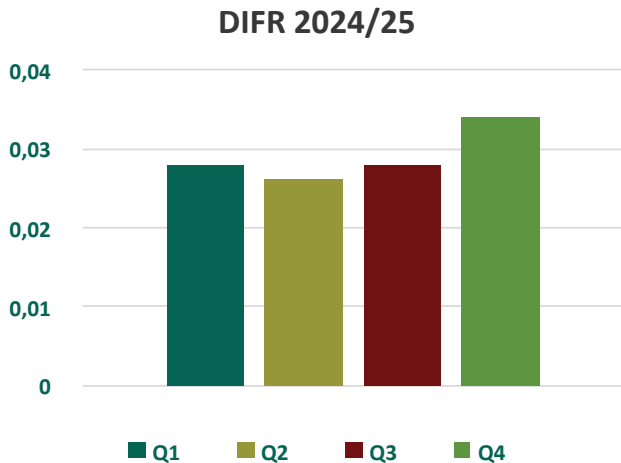
During the 2024/25 financial year, the OHSE team implemented, monitored and reviewed its safety, health and environment system in accordance with the ILO-OSH 2001 framework. Despite facing various administrative, operational and systemic challenges, the SHEQ Team efforts have led to improved and gradual integration of safety, health, and environmental system into ARC core business.

OCCUPATIONAL INJURIES AND DISEASES

During the period under review, a total of fifty-seven occupational injuries were recorded and reported for claims to the Compensation Fund and sick leave due to occupational injuries.

DISABLING INJURY FREQUENCY RATE (DIFR)

For the period under review, an overall DIFR was calculated at 0.029.



Although a marginal increase of DIFR was recorded for quarter four, however, it still remains well below the ILO threshold value of 1. This implies that the ARC is a low-risk employer and demonstrated significant efforts to reduce workplace hazards and injuries.

OCCUPATIONAL MEDICINE

During the period under review, three campuses OVR-TAD, TSC and Infruitec-Nietvoorbij implemented occupational medical examinations on 134 employees. In TSC, physical examinations, audiometric test, biological monitoring, lung spirometry and vision test were concluded on 58 employees. Infruitec-Nietvoorbij concluded biological monitoring (pre and post exposure), physical examination, audiometric test, biological monitoring, lung spirometry and vision test on 65 employees and administered combined Hepatitis A & B vaccines on four employees. In OVR-TAD seven employees were administered with rabies vaccine.

INTERNAL OPERATIONAL CONTROLS

During the review period key controls included evacuation drills, pest control treatment, contractor management system, personal protective equipment and maintenance of fire equipment.

SHE COMMITTEES

During the period under review, all eleven campuses have established functional, sustainable and independent SHE committees and these mandatory structures have gradually improved the organizational health and safety culture and system. One Corporate SHE Structure was also established.

OCCUPATIONAL HEALTH RISK ASSESSMENT

During the period under review, two campuses namely SG and GC, obtained the services of Gijima Occupational Hygiene and Environmental Services for an occupational hygiene surveys. In SG, findings revealed low risk to indoor air quality, hazardous biological agents and pesticides exposure, moderate risk to noise, hazardous biological agents and whole-body vibration in most areas of maintenance, germplasm and crop production section. However, high risk was recorded for noise, thermal stress and ultraviolet radiation exposure for the farm section sub-population, and this is attributable to outdoor heat and ultra-violet radiation exposure, tractor and harvester operations. In GC, findings revealed exposure to vibration, iron oxide fumes, ergonomic stresses, noise, and organophosphate pesticides. However, exposure to volatile organic compounds and particulates was below the exposure limit.

TRAINING INTERVENTIONS

During the period under review, two campuses facilitated SHE related trainings. CO: facilitated COMPEASY Training for 15 persons and Infruitec-Nietvoorbij facilitated Forklift Truck Operator on 6 persons.

EXTERNAL INSPECTIONS AND AUDITS

During the period under review, four campuses were audited by external stakeholders. Infruitec-Lutzville farm was audited by Wine and Agricultural Ethical Trading Association (WIETA), TSC: Addo outstation audited by the Department of Labour & Employment, OVR: TAD by DALRRD Veterinary Public Health Inspectors and OVR by City of Tshwane (CoT). Corrective notices and recommended improvements were implemented by OVR: TAD, Infruitec-Lutzville and TSC: Addo campuses, whereas OVR corrective actions are still ongoing.

WASTE MANAGEMENT

During the period under review, 500m² contaminated land rehabilitation was concluded in Animal Production: Irene. A total of five campuses disposed various hazardous waste, whereas two campuses TSC and OVR signed waste management contracts with accredited waste transporters. In AP from the 147,29 tons of solid waste disposed, garden material was 77,5 tons, general at 31,75 tons, ash at 10 tTons, chemicals at 5,22 tons, pharmaceutical at 0,57 tons and infectious at 0 043 tons. In SG 500kg chemicals and 350kg biohazards were disposed. Another total of 9,53kL of liquid waste was disposed in AP and Infruitec-Nietvoorbij, CO disposed 153,29kg of e-waste and NRE: Arcadia disposed 9,58 tons of asbestos waste.

A progressive integration of sustainable waste management practices and a strong management commitment to the

fulfilment of strategic organization's environmental goal, was recorded.

NEMA LISTED ACTIVITIES

During the review period, OVR reported progress on the acquisition of atmospheric emission license for the two on-site listed activities. Two meetings with City of Tshwane (CoT) and E-Science Environmental Consultants were held. Furthermore, the erection of steel scaffold for stack sampling was completed, the affected people public participation and local newspaper advertisement were also concluded. Stack sampling was 90% completed and envisaged for completion in 2025/26. There is an applaudable management commitment to redress the accentuated environmental non-conformances.

12. COMPANY SECRETARY

The Company Secretary provides guidance to the Council regarding its duties, responsibilities, powers and matters of procedure in terms of the Board Charter, terms of reference, principles of good ethics, good governance, and best practices. assists Council and its subcommittees with interpretation of applicable legislation relevant to or affecting the organisation and implications for non-

compliance with such applicable statutory requirements. The Company Secretary monitors compliance to execution of duties in line with the delegation of authorities and plays a key role in preparing the reports for the Annual Report and ensuring that relevant deadlines and appropriate statutory disclosures are met.

13. SOCIAL RESPONSIBILITY

The ARC continues to play a central role in the agricultural sector by providing scientific solutions to agricultural challenges in the food security, nutrition, and safety realms. In addition to being one of the key drivers of innovation and a major force behind the National Development Plan, agriculture also holds great promise for addressing and mitigating the social, economic, and environmental problems that humanity is currently facing.

The ARC undertakes to continuously assert itself as the ultimate strategic and premier institution that provides efficient and effective agricultural solutions for South Africa and the African continent at large.

MANDELA DAY

As part of celebrating Mandela Day on 18 July, ARC employees voluntarily embarked on a knit-a-thon initiative. Through this project all ARC campuses participated and knitted hats and scarves. The beneficiaries of ARC goodwill

were the **Emily Hobhouse Old Age Home** which is situated in Capital Park in Gauteng which has a total of 165 residents, and the **Naboom Old Age Home** in Mookgopong, Limpopo which has a total of 67 residents.

The ARC received a heartfelt note of gratitude from the homes, bearing the inspiring slogan *Changing the world one soul at a time!*



WORLD FOOD DAY

World Food Day is an international day that is commemorated globally each year on October 16, this is celebrated on the date in which the United Nations Food and Agriculture Organisation was founded back in 1945. Each year it communicates a theme to be addressed under food security, nutrition, and sustainable agriculture. The theme for 2024 was the *“Right to foods for a better life and a better future.”*

Within the context of World Food Day, the Agricultural Research Council donated food parcels received from campuses as part of Food Mountain competition to

Magau Community Project. This was handed over to the community project on 6 February 2025. This home-based project is community project based in Atteridgeville, Phomolong Section. The project is aimed at developing the community, creating sustainable livelihoods, implementing social development programmes and alleviating poverty.



14. AUDIT AND RISK COMMITTEE REPORT

We are pleased to present the report of the Audit and Risk Committee for the financial year ended 31 March 2025.

EXECUTIVE SUMMARY – GOVERNANCE ASSURANCE AND AUDIT OVERSIGHT

For the past seven years, the ARC has faced a cycle of qualified audits, largely rooted in historic weaknesses such as legacy systems, incomplete governance processes, and persistent audit findings around the fixed asset register. While these qualifications did not undermine overall governance stability, they hindered governance maturity and stakeholder confidence.

It is with satisfaction that it can be reported that, following the seven consecutive years of qualified audit outcomes, the ARC has achieved an **unqualified audit opinion** for the year under review. This milestone reflects the significant progress made by Management, Council, and the Committee in strengthening governance, financial reporting, and overall audit preparedness.

In this reporting period the marked improvement in organisational performance, with 87% of planned targets achieved — the highest in five years — alongside sound financial performance reflected in a surplus of R184 million, and no going concern risks marks a deliberate and strategic pivot.

With the support of management, the Audit and Risk Committee (ARCo) tackled governance assurance as a top priority. Three key actions defined this renewed approach:

Execution of the Audit Improvement Plan – supported by interim audit reviews to ensure sustained progress and early detection of gaps.

1. **Modernisation of Systems** – including the installation of new software aimed at addressing long-standing asset management weaknesses.
2. **Strengthened Governance Alignment** – clear coordination between the Committee, management, internal audit, and the AGSA to ensure shared accountability and follow-through.

This year was less about compliance and more about governance integrity. The ARC deliberately shifted its focus from managing recurring audit findings to building a culture of accountability, strengthened controls, and risk-based oversight. While challenges remain — particularly in asset management, financial reporting accuracy, and compliance disciplines — the Committee believes the foundations for governance maturity have now been laid.

The strategy implemented in the past year signals a decisive break from past audit cycles. The ARCo will continue to monitor the execution of the Audit Improvement Plan and work closely with management and internal audit to entrench a culture of proactive governance.

The reader can therefore be confident that the ARC is on a forward-looking path from governance stability towards governance integrity and maturity, positioning the organisation for a stronger assurance profile in future audit cycles.

THE RESPONSIBILITIES OF THE AUDIT AND RISK COMMITTEE

The Audit and Risk Committee (the Committee) is a formally constituted sub-committee of the Council. The Committee reports that it has complied with its responsibilities arising from Section 51 (1)(a)(ii) of the Public Finance Management

Act (as amended) and regulation 27.1 of the Treasury Regulations. The Audit and Risk Committee reports that it has adopted the formal terms of reference as its Charter, which was approved by the Council. The Charter is updated regularly and complies with the requirements of the PFMA, read together with the National Treasury Regulations and the principles of good governance.

The Committee is accountable to the Council and performs an oversight function over:

- Financial management;
- Financial and performance reporting practices;
- Internal controls and risk management processes;
- Internal Audit function;
- External Audit process;
- Compliance with laws, regulations, and ethical conduct; and
- ICT governance.

The Committee has regulated its affairs in compliance with

this Charter and discharged all its responsibilities during the current financial year in compliance with the Charter.

AUDIT AND RISK COMMITTEE COMPOSITION

The Audit and Risk Committee comprises of the six (6) members, of which four (4) are independent members who are not members of the Council. In terms of the approved Audit and Risk Committee Charter, four (4) meetings were held during the current year to consider the Quarterly Performance Reports (financial and non-financial), internal audit reports, risk management reports and other Compliance reports. Six (6) special meetings were held to consider the Annual Financial Statements, the Auditor-General of South Africa's (AGSA) audit reports and the Audit Improvement Plan. The Committee as a collective, comprises persons with a blend of skills, knowledge, and experience necessary to fully discharge its responsibilities. As at 31 March 2024, the Committee comprised members listed below and the attendance of meetings by the members of the Committee was as follows:

NAME	INTERNAL OR EXTERNAL	PERIOD	# OF MEETINGS ATTENDED
Ms Masaccha Mbonambi (Chairperson)	External	Period ended 31 May 2025	15
Dr Kobus Laubscher	(Deputy Chairperson) External	Appointed Chairperson from 01 June 2025	15
Ms Brigitte Schutte	External	Period ended 31 May 2025	14
Ms Tshidi Mokgabudi	External	Period ended 31 May 2025	14
Mr. Goodman Gcaba	Internal	Current Member	16
Ms. Clarinda Simpson	Internal	Current Member	15

The Chief Executive Officer, Chief Audit Manager, Chief Financial Officer and other members of senior management and representatives from the office of the Auditor-General South Africa (AGSA) attend the meetings of the Committee by invitation.

EFFECTIVENESS OF INTERNAL CONTROL

The system of internal controls within the ARC is designed to provide reasonable assurance that the assets are safeguarded and that liabilities and working capital are properly managed in line with the PFMA. This is achieved by means of a risk-based internal audit plan, where the internal audit function provides the Committee and management with assurance that the internal controls are appropriate and effective in mitigating the risks. The Committee reviewed the progress made by management

in the implementation of the audit improvement plan to remediate the control deficiencies raised by the AGSA in the prior year, and the progress made is acknowledged. The Committee implored management to pay close attention to the area of asset management, other areas of financial reporting and compliance with laws and regulations, especially compliance with the supply chain management prescripts. Based on the interaction with management and reports of internal audit on this review, it became

clear that some matters had not been adequately addressed.

The Committee concludes that the system of internal control as applied over financial and non-financial matters, enterprise risk management and in compliance with laws and regulations, requires improvement.

INTERNAL AUDIT

The Internal Audit function is co-sourced and is performed jointly by BDO South Africa and the Chief Audit Manager. The Committee is responsible for overseeing the Internal Audit function and the Committee is satisfied with the competence and independence of the Internal Audit function. The Committee reviewed and approved the internal audit charter for the year under review. The Committee reviewed and approved the three-year rolling internal audit plan, including the annual internal audit plan for the FY2024/25. The approved FY2024/25 internal audit plan consisted of twenty-two (22) planned audit reviews, and twenty-two (22) of these audit reviews were completed during the period under review.

FORENSIC INVESTIGATION

During the period under review, twenty-one (21) new fraud-related cases were reported to the Committee. At the time of finalising this report, one (1) case was still under investigation and twenty (20) had been concluded. The Committee implored Management and the Council to implement the recommendations on consequence management and to address all identified internal control deficiencies.

IN-YEAR MANAGEMENT AND QUARTERLY REPORTING

The Committee noted the content and quality of the financial and non-financial quarterly reports prepared and submitted by the Chief Executive Officer during the year under review and some improvements were proposed and effected by management.

EVALUATION OF THE ANNUAL FINANCIAL STATEMENTS AND ANNUAL PERFORMANCE REPORT

The Committee has:

- Reviewed and discussed the unaudited Annual Financial Statements and Annual Performance Report of the Entity prior to submission to the AGSA for audit purpose;
- Reviewed and discussed the audited Annual Financial Statements and Annual Performance Report included in the Annual Report, with the AGSA and Management.
- Reviewed the changes relating to the Annual Financial Statements and Annual Performance Report.
- Reviewed the Entity's compliance with legal and regulatory provisions.

- Reviewed the Audit Report of the Auditor-General South Africa
- Reviewed the Auditor-General South Africa's management report and management's response thereto.

AUDITOR-GENERAL SOUTH AFRICA

The FY2024/25 audit was conducted by the Auditor-General of South Africa. In consultation with management, the Committee agreed to the engagement letter and the audit strategy, including the audit fees. The Committee is satisfied with the independence and objectivity of the AGSA and has met with the AGSA to ensure that there were no unresolved issues. The Committee also met with management of the ARC to discuss the actions to be taken to address the internal control deficiencies identified during the audit process. To effectively address and prevent repeat audit outcomes, the Committee implored management to treat the issues raised in the AGSA report for the year under review as a high priority area in the FY2024/25.

The Committee will closely monitor the implementation of the audit improvement plan and get assurance from internal audit. The Committee concurs with and accepts the conclusions of the Auditor-General South Africa on the Annual Financial Statements and is of the opinion that the audited Annual Financial Statements be accepted and read together with the report of the Auditor-General South Africa.

2024/25 was a turning point: The ARC has shifted from firefighting recurring audit issues towards building **sustainable governance integrity**. The foundations for audit turnaround and governance maturity have been laid, strengthening oversight by the accounting authority which will be critical in keeping this momentum.

APPRECIATION

The Committee wishes to acknowledge the work performed by the Chief Executive Officer, management and Officials of the ARC. The Committee wishes to express its appreciation to management, the AGSA and the Internal Audit Unit for the cooperation and information they have provided to enable the Committee to discharge its responsibilities.



Dr Kobus Laubscher

Chairperson of the Audit and
Risk Committee Agricultural Research Council

During the reporting period, the Audit and Risk Committee considered the following:

First Quarter 2024/25:

- 1st Quarter Internal Audit Report
- 1st Quarter Combined Assurance Report
- 1st Quarter Report Fruitless & Wasteful, Irregular Expenditure and Reported Allegations Cases
- Draft Annual Report
- 1st Quarter Performance Information Report
- 1st Quarter Enterprise Risk Management Performance Report
- 1st Quarter Legal Services Performance Report
- 1st Quarter Compliance Management Report
- Fraud and Ethics Strategy
- ARC Whistleblowing Policy
- 1st Quarter SCM Report
- Draft 2024/25 Financial Results as at 30 June 2024
- 1st Quarter ICT Performance Report

Second Quarter 2024/25:

- 2nd Quarter Internal Audit Report
- 2nd Quarter Combined Assurance Report
- 2nd Quarter Report Fruitless & Wasteful, Irregular Expenditure and Reported Allegations Cases
- 2nd Quarter Performance Information Report
- 2nd Quarter Enterprise Risk Management Performance Report
- 2nd Quarter ICT Performance Report
- 2nd Quarter Legal Services Performance Report
- 2nd Quarter Compliance Management Report
- 2nd Quarter SCM Report
- Draft 2024/25 Financial Results as at 30 September 2024
- SCM Policy
- Draft Interim Financial Statements

Third Quarter 2024/25:

- Interim Financial Statements at 31 December 2024
- 3rd Quarter Internal Audit Report
- 3rd Quarter Report Fruitless & Wasteful, Irregular Expenditure and Reported Allegations Cases

- 3rd Quarter Combined Assurance Report
 - » Internal Audit Charter
 - » Request for Approval- the closing of vulnerability Assessment & Penetration testing findings and reliance of the work performed by state security
- Draft 2024/25 Financial Results as at 31 December 2024
- 3rd Quarter SCM Report
- Consolidated Fruitless and Wasteful Expenditure
- 3rd Quarter Performance Information Report
- 3rd Quarter Enterprise Risk Management Performance Report
- 3rd Quarter ICT Performance Report
 - » ICT Security Policy
- 3rd Quarter Legal Services Performance Report
- 3rd Quarter Ethics and Compliance Report

Fourth Quarter 2024/25:

- Update on the Audit Improvement Plan & Interim Audit
- Draft 2024/25 Financial Results as at 31 March 2025
- 4th Quarter SCM Report
- Final year end plan
- 4th Quarter Internal Audit Report
- 4th Quarter Report Fruitless & Wasteful, Irregular Expenditure and Reported Allegations Cases
- 4th Quarter Combined Assurance Report
- Chairperson's Report: Risk Management Committee
- 4th Quarter Performance Information Report
- 4th Quarter ICT Performance Report
- 4th Quarter ICT Performance Information Report
- 4th Quarter Legal Services Performance Report
- 4th Quarter Compliance Management Report
- Institutional Review Implementation Plan Progress Update Report
- Update regarding the ARC's contribution to the Agricultural Research Act 1990 (Act 86 of 1990) review process
- 4th Quarter Enterprise Risk Management Performance Report

AUDIT AND RISK COMMITTEE MEMBERS

NAME	QUALIFICATIONS	INTERNAL OR EXTERNAL	IF INTERNAL, POSITION IN THE PUBLIC ENTITY	DATE APPOINTED	TERM ENDED	NO. OF MEETINGS ATTENDED OF THE 16 SCHEDULED
Ms Masaccha Mbonambi (Chairperson)	Bachelor of Accounting; BCom (Hons) in Accounting; CTA	External	N/A	1 July 2022	31 May 2025	15
Kobus Laubscher	PhD Agricultural Economics; MSc; BCom (Hons); BCom	External	N/A	1 September 2023	N/A	15
Ms Brigitte Schutte	BCom (Hons) Accounting; BCom; Diploma in Criminal Justice and Forensic Auditing	External	N/A	1 July 2022	31 May 2025	14
Ms Tshidi Mokgabudi	Dip Tax Law; BSc (Hons); BAccSc; Bachelor of Commerce, Economics and Industrial Psychology; Dip: Nutritional Supplementation	External	N/A	1 July 2022	31 May 2025	14
Mr Goodman Gcaba	Master of Science (Forest Management) Master of Science (Agriculture) Master of Business Administration Bachelor of Science (Agriculture and Commercial Forestry)	Council Member	N/A	1 July 2023	N/A	16
Ms Clarinda Simpson	Bachelor of Accounting Science (Hons) Bachelor of Accounting (Accounting) Diploma in Auditing	Council Member	N/A	1 July 2023	N/A	15

15. B-BBEE COMPLIANCE PERFORMANCE INFORMATION

The following table has been completed in accordance with the compliance to the BBBEE requirements of the BBBEE Act of 2013 and as determined by the Department of Trade, Industry and Competition.

Has the Department/Public Entity applied Levels any relevant Code of Good Practice (B-BBEE Certificate 1 - 8) with regard to the following:		
Criteria	Response Yes/No	Discussion (Include a discussion on your response and indicate whatcomply)
Determining qualification criteria for the issuing of licences, concessions, or other authorisations in respect of economic activity in terms of any law?	N/A	N/A
Developing and implementing a preferential procurement policy?	Yes	The approved ARC SCM policy makes provision for the implementation of the Preferential Procurement Regulations 2022 through use of specific objectives in line with the PPPFA.
Determining qualification criteria for the sale of state-owned enterprises?	No	ARC has not engaged in the sale of state-owned enterprises. Not applicable.
Developing criteria for entering partnerships with the private sector?	Yes	Partnering with the private sector through the procurement process. Evaluation criteria are set for the tendering process.
Determining criteria for the awarding of incentives, grants and investment schemes in support of Broad Based Black Economic Empowerment?	No	ARC has not engaged in the awarding of incentives, grants and investment schemes in support of BBBEE.

PART D:
HUMAN CAPITAL
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HUMAN CAPITAL MANAGEMENT





HUMAN CAPITAL MANAGEMENT

1. OVERVIEW OF HUMAN CAPITAL MANAGEMENT MATTERS AT THE ARC

The Human Capital Management (HCM) function at the ARC plays a central role in enabling the organisation to deliver on its research and development mandate. Recognising that people are the ARC's most valuable asset, HCM is tasked with ensuring that the ARC attracts, develops, retains, and motivates a highly skilled and diverse workforce that supports agricultural innovation and sustainability.

The ARC recognises that the advancement of agricultural science and innovation depends on the availability of a highly skilled and specialised talent pool. In line with this, the ARC remains a knowledge-based organisation firmly committed to strengthening its human resources capacity through its flagship Postgraduate Development Programme, mentorships and internship opportunities.

In addition, the Human Capital Management division continues to place emphasis on initiatives that enhancing processes, people, and organisation to meet the evolving needs of the ARC community. As such, during the year under review, the ARC, was certified as a Top Employer for a 3rd year in a row. This is testimony to the commitment

to continuous improvement in creating a favourable environment for employees to professionally thrive and grow. The ARC is very proud to have been amongst other global companies whose practices were assessed, audited, and found to be above board and worthy of recognition.

ARC initiated an organisational design project aimed at streamlining operations, enhancing efficiency, and aligning institutional capacity with strategic objectives. The process has led to the new leadership and functional structure being approved and implemented effective from 1 April 2024.

The ARC acknowledges that the future of HCM lies in leveraging technology to create efficiency, transparency, and improved employee experiences. In this regard, the organisation has progressively integrated digital solutions into its HR practices to modernise processes and align with global best practice. This included the **deployment of an e-Recruitment**; e-Learning and on-line performance management portals to enable ARC employees to effectively obtain top class HCM services.

2. THE HUMAN CAPITAL MANAGEMENT FUNCTIONS

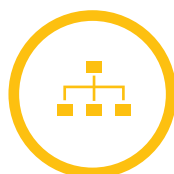
The HCM Portfolio is organised into five main domains, viz.



Employee Relations



Employee Wellness



Human Capital and Organisational Development



Talent & Performance Management



Human Capital Management Information Systems

2.1 EMPLOYEE RELATIONS

The Employee Relations (ER) and Wellness function remains a key strategic enabler within the ARC, entrusted with fostering a productive, compliant, and harmonious work environment. The core objectives of the ER Department include: Promoting constructive and proactive employer–employee engagements; Enhancing organisational effectiveness through strategic ER partnerships aligned with Institutional Review outcomes; Reducing workplace conflict and misconduct to support a climate conducive to high productivity; and Maintaining constructive relationships with recognised trade unions to enable efficient, transparent, and effective collective bargaining processes.

To deliver on these objectives, the ER Department operates as an in-house centre of excellence, offering end-to-end support in the following areas: Policy advisory services and the development of fit-for-purpose ER frameworks; Legislative compliance, dispute resolution, and corrective action facilitation; Support to line management in managing incapacity, performance, and disciplinary cases; and Internal capacity building and policy awareness through targeted training, stakeholder engagement, and communication campaigns.

ER also plays a vital role in the safeguarding of procedural and substantive fairness, ensuring that employee matters are addressed ethically, consistently, and in line with applicable labour legislation and internal policies.

2.2 EMPLOYEE WELLNESS PROGRAMME

In line with ARC's commitment to the holistic well-being of its workforce, the organisation continues to implement a comprehensive Employee Wellness Programme (EWP), facilitated through a professional third-party provider, Life Health Solutions. The EWP is accessible to all employees and their immediate family members, offering confidential and professional support across a spectrum of wellness domains.

These include mental and emotional well-being; Physical health and lifestyle management; Financial and legal counselling; and Work-related support services such as job performance counselling and trauma debriefing.

The EWP is aligned with national health promotion strategies and aims to strengthen employee resilience, reduce absenteeism, and support performance. A key focus in the reporting year was the popularisation of the EWP, with targeted awareness campaigns and employee wellness workshops held across various ARC campuses.

These interventions are designed to increase the utilisation of available services, remove stigma associated with seeking help, and promote a culture of healthy living and psychological safety within the organisation.

The EWP is aligned with national health promotion strategies and aims to strengthen employee resilience, reduce absenteeism, and support performance. A key focus in the reporting year was the popularisation of the EWP, with targeted awareness campaigns and employee wellness workshops held across various ARC campuses.

These interventions are designed to increase the utilisation of available services, remove stigma associated with seeking help, and promote a culture of healthy living and psychological safety within the organisation.

2.3 TALENT AND PERFORMANCE MANAGEMENT

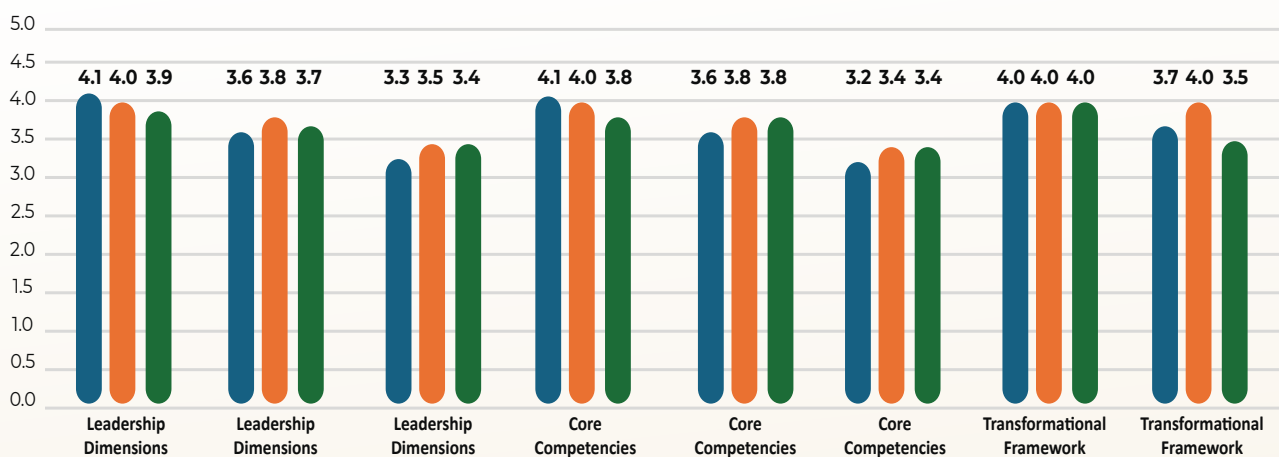
Talent and Performance Management is crucial for organisations as it directly influences their ability to achieve strategic goals, maintain competitiveness, and foster a thriving workplace culture. It ensures that people with right skills are attracted and retained in the organisation with a clearly defined employee lifecycle and how it impacts on organisational performance.

The ARC values accountability and has introduced performance management in its structures to ensure ARC meets its goals. HCM ensured an effective and well-articulated process for accomplishing evaluation activities, with defined roles and timelines for employees to ensure that their Performance Agreements and Reviews are aligned with the overall organisational strategy, needs and objectives.

360-degree Leadership Assessment

As part of the individual performance management process for Executives, Senior and Middle Managers, ARC introduced the 360-degree leadership assessment, to strengthen the leadership capacity within the ARC.

There has been significance improvement in all leadership dimensions as compared to previous years with a rating score of 4 out of a 5 compared to the rating of 3.7 in 2023/24FY. The following graph depicts the high-level organisational results across the last three performance cycles at the three different management levels:



The following graph depicts results across the last three performance cycles in respect the management living the ARC Values:

VALUES COMPARISON



2.4 POLICY DEVELOPMENT

Policies and Procedures in ARC serve as a cornerstone in reinforcing and clarifying the expected conformance standards from employees. They further provide structure, control, and consistency in applying standards in the workplace. In the year under review, the following policies were implemented after it were extensively consulted on and negotiated between the ARC and Organised Labour:

- Employee Retention Policy
- Internship, Graduate, and Workplace Integrated Learning Policy
- Postdoctoral Fellowship Policy
- Professional Development Programme Policy
- Disciplinary Code and Procedure
- Employee Non-monetary Reward Policy
- Psychoactive Substance Use Policy
- Recognition of Prior Learning Policy

3. HIGHLIGHTS OF ACHIEVEMENTS DURING THE FINANCIAL YEAR UNDER REVIEW

The ARC continues to be a trendsetter in the research and development space in the country. Ensuring food security in the Republic is the ARC's main focal priority; therefore, it continues to hire specialist talent to fulfil its mandate.

The following are the highlights for the year under review:

- Being recognised as **#TopEmployer** for the 3rd time in a row.
- Improved enrolment of graduate development to build our talent pipeline.
- Sound labour relations.
- Improved 360-degree leadership dimensions.
- Improved disability representativity

4. CHALLENGES FACED BY THE ARC

- Increasing labour costs vs revenue.
- Lack of attraction and retention of critical and scarce skills
- Scientific skills demand versus availability in the country.

5. FUTURE HCM PLANS/GOALS

In alignment with the revised ARC five-year strategy, the HCM has developed its human resources strategy that will focus on the following thrusts:

- » **Talent Management** – Develop an Integrated Talent Management Framework and Total Rewards Strategy that will focus on attracting, developing and retaining the right talent at the right time and the right place to enable a high performing and future ready workforce.
- » **Diversity, Equity & Inclusion** - Cultivate a culture that values diversity, ensures equitable access to opportunities, and fosters an inclusive environment where all employees feel free to work. Ensure that ARC complies with the new sectoral employment equity targets and achieves a compliance certificate.
- » **HCM Process re-engineering** – Improved employee experience through standardised and digitised HCM processes that support operational efficiency.
- » **Employee wellbeing** - Deepen wellness integration into the organisational culture by embedding wellness into day-to-day people management practices.

6. HUMAN CAPITAL MANAGEMENT OVERSIGHT STATISTICS

PERSONNEL COST BY BUSINESS DIVISION

(All payrolls including Students for the period 1 April 2024 to 31 March 2025)

BUSINESS DIVISION/FOCUS	PERSONNEL EXPENDITURE (R'000)	NO. OF EMPLOYEES	AVERAGE PERSONNEL COST PER EMPLOYEE (R'000)
Crop Sciences	323 166.82	1962	164.71
Animal Sciences – including BTP	193 952.24	553	350.73
Natural Resources and Agricultural Engineering	60 798.06	204	298.03
Impact and Partnerships	17 108.89	31	551.90
Support (HR, Finance, ICT)	224 928.59	572	393.23
Professional Development Programme - Students	30 803.35	354	87.02
Independent Contractors	1 091.52	21	51.98
Council	3 121.28	14	222.95
Total	854 970.76	3711	230 388.24

Explanatory note:

Core Business Divisions: Include core staff namely Researchers, Specialist Researchers, Research Team Managers, Executives & Senior Management: Core, Research Technicians and Research Support staff being Research Coordinators, Research Support, Labourers, Artisans, Farm Personnel, Trucks & Tractors Drivers.

Support Staff: Include all support functions, namely Human Capital Management, Finance, Information Communication Technology, Infrastructure, Risk Divisions, Admin Support, Secretaries, Librarians, Marketing & Public Relations, Messengers, Drivers, Executives & Senior Management: Support and the Office of the CEO.

PERSONNEL COST BY OCCUPATIONAL LEVEL

(All payrolls including Students for the period 1 April 2024 to 31 March 2025)

OCCUPATIONAL LEVEL	PERSONNEL EXPENDITURE (R'000)	% OF PERSONNEL EXP. TO TOTAL PERSONNEL COST	NO. OF EMPLOYEES	AVERAGE PERSONNEL COST PER EMPLOYEE (R'000)
Top Management (GG17 to GG19)	8 621.15	1.01%	4	215 528.86
Senior Management (GG14 to GG16)	34 634.75	4.05%	28	1 236.96
Professional qualified (GG11 to GG13)	325 622.77	38.09%	486	670.01
Skilled (GG8 to GG10)	246 242.96	28.80%	726	339.18
Semi-skilled (GG5 to GG7)	95 156.48	11.13%	452	210.52
Unskilled (GG3 to GG4)	109 676.50	12.83%	1626	69.49
Professional Development Programme (PG Funded)	30 803.55	3.60%	354	87.02
Independent Contractors	1 091.52	0.13%	21	51.98
Council	3 121.28	0.36%	14	222.95
TOTAL	854 970.76	100%	3711	230 388.24

Explanatory note:

The personnel numbers and expenditures reflected in above the 2 tables include employees' total remuneration package (salaries and wages) (active and terminated) from 1 April 2024 to 31 March 2025. These are inclusive of pension/provident fund employer contributions, medical aid employer contributions, skills development levy, car allowance, long service awards and overtime remuneration. The AFS Statement is inclusive of the personnel expenditure as explained above, payments made by finance which are (medical-aid contribution for pensioners, workers compensation contributions, personnel training, and membership fees) AND deferred compensation are provisions for (leave provision, performance bonus, and royalty benefits). The Total employee costs also include cell phone allowance which is captured under the financial statements as captured under Telephone and Faxes (see page 312).

TRAINING EXPENDITURE

TYPE OF TRAINING	TRAINING EXPENDITURE (R'000)	PERSONNEL EXPENDITURE (R'000)	TRAINING EXPENDITURE AS A % OF PERSONNEL COST	NO OF EMPLOYEES TRAINED	AVERAGE TRAINING COST PER EMPLOYEE (R'000)
Formal and Informal Training	6 732	854 970,76	0,79%	324	20,78

EMPLOYMENT AND VACANCIES

On 31 March 2025, the ARC had 265 vacancies. These vacancies are PG-funded and were budgeted for in respect of the 2024/25 financial year. The vacancy rate is 11.95%. The following 2 tables depict the vacancy distribution per Business Division and ARC Occupational level. The numbers reported in these tables reflect the permanent positions in the ARC structures and exclude employees appointed in non-permanent positions (Contractor and Wages employees).

BUSINESS DIVISION/FOCUS	NUMBER OF PERMANENT POSITIONS FILLED AT THE BEGINNING OF THE PERIOD (01/04/2024)	NUMBER OF PERMANENT VACANCIES (01/04/2024)	2024/2025: APPROVED POSTS (FILLED AND BUDGETED VACANCIES)	2024/2025: NUMBER OF PERMANENT POSITIONS FILLED ON 31/03/2025	2024/2025: VACANCIES – 31 MARCH 2025	% VACANCY RATE
Crop Sciences	936	135	1071	929	142	13.25%
Animal Sciences – including BTP	485	56	541	479	62	11.46%
Natural Resources and Agricultural Engineering	108	12	120	106	14	11.67%
Impact and Partnerships	23	2	25	21	4	16%
Support (HR, Finance, ICT)	404	56	460	417	43	9.34
Total	1956	261	2217	1952	265	11.95%

Explanatory note:

Core Business Divisions: Include core staff namely Researchers, Specialist Researchers, Research Team Managers, Executives & Senior Management: Core, Research Technicians and Research Support staff being Research Coordinators, Research Support, Labourers, Artisans, Farm Personnel, Trucks & Tractors Drivers.

Support Staff: Include all Support functions, namely Human Capital Management, Finance, Information, Communication, Technology, Infrastructure, Risk Divisions, Admin Support, Secretaries, Librarians, Marketing & Public Relations, Messengers, Drivers, Executives & Senior Management: Support and the Office of the CEO.

OCCUPATIONAL LEVEL	NUMBER OF PERMANENT POSITIONS FILLED AT THE BEGINNING OF THE PERIOD (01/04/2024)	NUMBER OF PERMANENT VACANCIES ON 1/4/2024	2024/2025 APPROVED POSTS (FILLED & BUDGETED VACANCIES)	2024/2025: NUMBER OF PERMANENT POSITIONS FILLED ON 31/03/2025	2024/2025 VACANCIES – 31 MARCH 2025	% VACANCY RATE
Top Management (GG17 to GG19)	4	1	5	3	2	0%
Senior Management (GG14 to GG16)	19	13	32	22	10	55.55%
Professional qualified (GG11 to GG13)	420	74	494	413	81	17.56%
Skilled (GG8 to GG10)	530	75	605	537	68	12.63%
Semi-skilled (GG5 to GG7)	354	45	399	364	35	9.62%
Unskilled (GG3 to GG4)	629	53	682	613	69	0
TOTAL	1956	261	2217	1952	265	11.95%

EMPLOYMENT CHANGES

The following table shows the number of employees per Occupational Level. The number of employees increased from 2421 on 1 April 2024 to 2689 on 31 March 2025. The increase in employee numbers is mainly due to the SLA signed between the ARC and DALRRD to ensure sufficient resources to support this project.

OCCUPATIONAL LEVEL	EMPLOYMENT AT BEGINNING OF PERIOD (1 APRIL 2024)	EMPLOYMENT AT END OF THE PERIOD (31 MARCH 2025)
Top Management (GG17 to GG19)	4	3
Senior Management (GG14 to GG16)	21	24
Professional qualified (GG11 to GG13)	431	444
Skilled (GG8 to GG10)	592	670
Semi-skilled (GG5 to GG7)	379	418
Unskilled (GG3 to GG4)	674	732
Sub Total - Permanent employees	2101	2291
Sub Total - Temporary employees (Casual Labourers/Wages employees)	320	398
TOTAL (All staff)	2421	2689

Employment Equity legislation defines a “Temporary employee” as an employee who is employed for less than 3 months. Therefore, employees on the Contractors payroll who are employed for longer than 3 months are included in the numbers of permanent employees. Casual Labourers / Wages employees (on the Contractors and Wages Payrolls) are categorised as Temporary employees due to the short nature of their appointments.

The Table below depicts the employee movements of **permanent** employees per ARC occupational groupings:

ARC OCCUPATIONAL GROUPING	PERMANENT EMPLOYMENT AT THE BEGINNING OF THE FINANCIAL YEAR (01 APRIL 2024)	APPOINTMENTS (PERMANENT STAFF)	TERMINATIONS (PERMANENT STAFF)	PERMANENT EMPLOYMENT AT THE END OF THE FINANCIAL YEAR (31 MARCH 2025)
Executive Management	4	0	0	4
Senior Management (Core)	10	1	1	10
Core Business (Researchers / Specialist Researchers & RTM's)	339	54	35	358
Research Technicians	351	71	25	397
Research Support*	971	134	107	998
Other Support Groupings **	426	139	41	524
TOTAL (Permanent staff)	2101	399	209	2291

Explanatory note:

**Research Support: Includes Artisans, Farm Personnel, Research Assistants, Research Coordinators, Truck & Tractor drivers, Operators Labourers, Abattoir Assistants, Laboratory Assistants, Animal Attendants, Dairy Assistants, Farm Assistants, Gardeners, Hygienic Assistants, Research Support Assistants, Operators, and Cleaning & Laundry Services.*

*** Other Support: Include all support functions, namely Human Capital Management, Finance, Information, Communication, Technology, Infrastructure, Risk Divisions, Admin Support, Secretaries, Librarians, Marketing & Public Relations, Messengers, Facilities and Drivers.*

REASONS FOR STAFF LEAVING (PERMANENT STAFF)

The staff turnover rate for 2024/25 was 3.04%, which was lower than the 3.71% turnover rate reported during 2023/2024. For the purpose of determining the staff turnover rate, contractors and temporary employees are excluded as they are not considered as part of the permanent structures of the organisation and due to the non-permanent nature of these appointments.

The following table depicts the number of exits per termination reason for permanent and contract employees (including DALRRD Contractors):

REASON	NUMBER	% OF TOTAL NO. OF STAFF LEAVING
Death	9	4.3%
Resignation	62	29.7%
Dismissal	8	3.8%
Retirement	58	27.8%
Ill health	3	1.4%
Expiry of contract	69	33%
Total	209	100%

EMPLOYEE RELATIONS: MISCONDUCT AND DISCIPLINARY ACTION

The table below provides the number of warnings and dismissals for the 2024/25 financial year.

NATURE OF DISCIPLINARY ACTION	NUMBER
Warnings	37
Dismissal	8

EQUITY TARGET AND EMPLOYMENT EQUITY STATUS

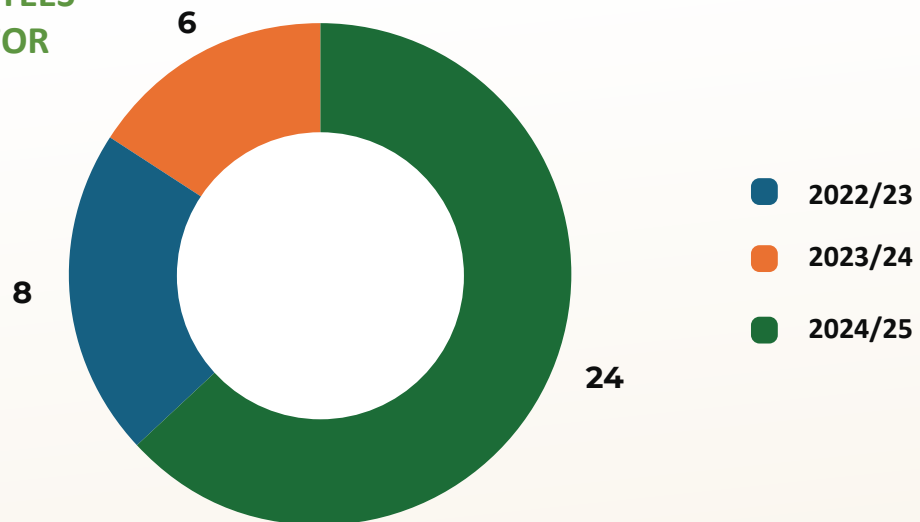
OCCUPATIONAL LEVEL	DESIGNATED GROUP			DESIGNATED GROUP						NON-DESIGNATED GROUP			TOTAL	% DESIGNATED GROUP REPRESENTATION PER OCCUPATIONAL LEVEL	% FEMALE REPRESENTATION PER OCCUPATIONAL LEVEL
	MALE			FEMALE			WHITE MALE	FOREIGN NATIONAL							
								MALE	FEMALE						
	AFRICAN	COLOURED	INDIAN	AFRICAN	COLOURED	INDIAN				WHITE	MALE	FEMALE			
Top Management	2	0	1	0	0	0	0	0	0	0	3	100.00%	0.00%		
Senior Management	9	1	0	6	0	0	3	2	2	1	24	79.10%	41.66%		
Professionally qualified and experienced Specialists and Middle Management	111	10	3	113	5	7	83	68	31	13	444	74.77%	49.77%		
Skilled Technical and Academically qualified workers, Junior Management Supervisors Foremen and Superintendents	237	9	0	317	18	2	50	35	1	1	670	94.50%	57.91%		
Semi-skilled and discretionary decision making	188	21	0	147	24	0	31	7	0	0	418	98.30%	48.32%		
Unskilled and defined decision making	613	57	0	411	34	0	1	5	6	3	1130	97.76%	39.73%		
GRAND TOTAL	1160	98	4	994	81	9	168	117	40	18	2689	93.49%	48.70%		

The data presented above illustrates the ARC's workforce distribution and its performance on employment equity metrics. This includes performance in each occupational level and areas of development in transforming the ARC in line with the prevailing employment legislations and to align our employment equity targets in resourcing the organisation, taking cognisance of the business strategy. The table further highlights a 93.49% representation of Designated Groups across all occupational levels and a 48.70% representation of women in the ARC overall.

EMPLOYEES WITH DISABILITIES

The graph below illustrates the number of employees who have declared disabilities in accordance with employment equity requirements. There is a notable upward trend in 2024/25, reflecting positively on the ARC's **diversity and inclusion efforts**. This progress resulted from the ARC's intensified awareness program, which educated employees on how to declare disabilities and ensured that their working needs are accommodated within our premises. However, it should be noted that, due to the nature of our work, particularly on farms, this improvement still fell short of our EE Plan target of 2%. Continued tracking and support will be essential to **sustain and build on this progress**.

NUMBER OF EMPLOYEES WITH DISABILITIES FOR THE PAST THREE FINANCIAL YEARS



PROFESSIONAL DEVELOPMENT PROGRAMME (PDP)

The ARC continues to strengthen its research talent pipeline by drawing from a growing pool of professional development programme students. Students enrolled in the ARC’s PDP receive practical learning experiences and mentorship from experienced researchers, along with academic supervision from universities. The table below shows the enrolment over the past four academic years.

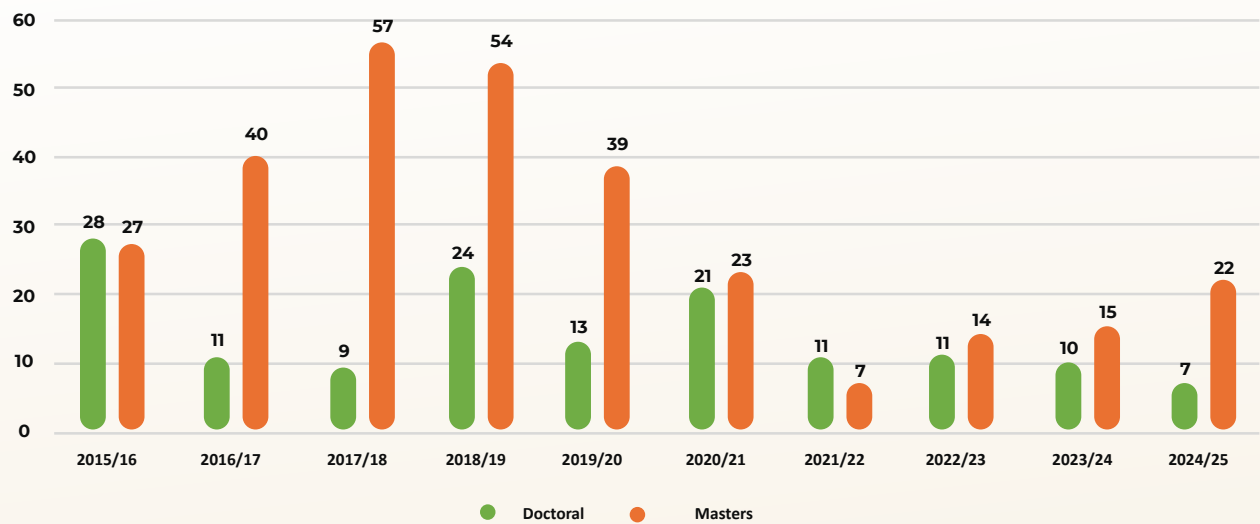
The enrolment in Master’s, Doctoral, and Postdoctoral programmes has shown consistent growth, with masters’ students forming the largest cohort. This trend supports ARC’s strategy of appointing entry-level researchers from among recent graduates.

To ensure long-term success, ARC is tracking key metrics such as enrolment and graduation rates, conversion to employment, retention, and research output. These indicators help align talent development with ARC’s mission to build a sustainable and skilled research workforce.

PDP STUDENTS ENROLMENT FOR THE FINANCIAL YEAR UNDER REVIEW				
PROGRAMME	2021/22	2022/23	2023/24	2024/25
Masters’ Students	91	62	68	85
Doctoral Students	99	78	72	80
Postdoctoral Students	13	13	15	19
Total	203	153	155	184

The Graph below, when compared to the enrolments above, gives an indication of the number of enrolled graduates graduating from the programme.

NUMBER OF STUDENTS GRADUATED FROM THE PDP IN THE PAST 10 YEAR PERIOD



**PART E:
PFMA
COMPLIANCE
REPORT 180**

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PFMA COMPLIANCE REPORT



PFMA COMPLIANCE REPORT

1. IRREGULAR, FRUITLESS AND WASTEFUL EXPENDITURE AND MATERIAL LOSSES

IRREGULAR EXPENDITURE

a. Reconciliation of irregular expenditure

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Opening balance	37 642	15 510
Adjustment to opening balance		
Opening balance as restated		
Add: Irregular expenditure confirmed	5669	22 132
Less: Irregular expenditure condoned	0	0
Less: Irregular expenditure not condoned and removed	0	0
Less: Irregular expenditure recoverable ¹	0	0
Less: Irregular expenditure not recoverable and written off	0	0
Closing balance	43 311	37 642

Reconciling notes

DESCRIPTION	2025/2024	2023/2024
	R'000	R'000
Irregular expenditure that was under assessment	0	
Irregular expenditure that relates to the prior year and identified in the current year	0	
Irregular expenditure for the current year	3400	22 132
Total	3400	22 132

The irregular expenditure identified by AGSA during audit is under investigation.

b. Details of irregular expenditure (under assessment, determination, and investigation)

DESCRIPTION ²	2024/2025	2023/2024
	R'000	R'000
Irregular expenditure under assessment	61 384	
Irregular expenditure under determination	0	
Irregular expenditure under investigation	3 400	22 132
Total	64 784	22 132

c. Details of irregular expenditure condoned

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Irregular expenditure condoned	0	0
Total		

d. Details of irregular expenditure removed - (not condoned)

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Irregular expenditure NOT condoned and removed	0	0
Total		

e. Details of irregular expenditure recoverable

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Irregular expenditure recoverable	0	0
Total		

f. Details of current and previous year irregular expenditure written off (irrecoverable)

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Irregular expenditure written off	0	0
Total		

Additional disclosure relating to Inter-Institutional Arrangements**g. Details of non-compliance cases where an institution is involved in an inter-institutional arrangement (where such institution is not responsible for the non-compliance)**

DESCRIPTION
None
Total

² Group similar items

- h. Details of irregular expenditure where an institution is involved in an inter-institutional arrangement (where such institution is responsible for the non-compliance)³

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
None		
Total		

- i. Details of disciplinary or criminal steps taken as a result of irregular expenditure

DISCIPLINARY STEPS TAKEN
Warning letters issued for various transactions

2. FRUITLESS AND WASTEFUL EXPENDITURE

- a. Reconciliation of fruitless and wasteful expenditure

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Opening balance	117	37
Add: Fruitless and wasteful expenditure confirmed	197	132
Less: Fruitless and wasteful expenditure recoverable ⁴	(117)	
Less: Fruitless and wasteful expenditure not recoverable and written off	(40)	(52)
Closing balance	157	117

Reconciling notes

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Fruitless and wasteful expenditure that was under assessment	0	0
Fruitless and wasteful expenditure that relates to the prior year and identified in the current year	0	0
Fruitless and wasteful expenditure for the current year	197	132
Total	197	132

- b. Details of fruitless and wasteful expenditure (under assessment, determination, and investigation)

DESCRIPTION ⁵	2024/2025	2023/2024
	R'000	R'000
Fruitless and wasteful expenditure under assessment	0	0
Fruitless and wasteful expenditure under determination	0	0
Fruitless and wasteful expenditure under investigation	65	65
Total	65	65

³ Refer to paragraphs 3.12, 3.13 and 3.14 of Annexure A (PFMA Compliance and Reporting Framework) to National Treasury Instruction No. 4 of 2022/2023

⁴ Transfer to receivables

⁵ Group similar items

c. Details of fruitless and wasteful expenditure recoverable

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Fruitless and wasteful expenditure recoverable	40	52
Total	40	52

d. Details of fruitless and wasteful expenditure not recoverable and written off

DESCRIPTION	2024/2025	2023/2024
	R'000	R'000
Fruitless and wasteful expenditure written off	117	0
Total	117	0

e. Details of disciplinary or criminal steps taken as a result of fruitless and wasteful expenditure

Disciplinary steps taken
During the current year, the investigations were finalised on some of the fruitless and wasteful expenditures incurred during current and prior years resulting in a recovery of R40 290.

Additional disclosure relating to material losses in terms of PFMA Section 55(2)(b)(i) & (iii)⁶

- a. Details of material losses through criminal conduct – Nothing to report over the last 2 financial years.**
- b. Details of other material losses - Nothing to report over the last 2 financial years**
- c. Other material losses recoverable - Nothing to report over the last 2 financial years.**
- d. Other material losses not recoverable and written off - Nothing to report over the last 2 financial years.**

LATE AND/OR NON-PAYMENT OF SUPPLIERS

DESCRIPTION	Number of invoices	Consolidated Value
		R'000
Valid invoices received		0
Invoices paid within 30 days or agreed period		0
Invoices paid after 30 days or agreed period		0
Invoices older than 30 days or agreed period (<i>unpaid and without dispute</i>)		0
Invoices older than 30 days or agreed period (<i>unpaid and in dispute</i>)		0

⁶ Information related to material losses must also be disclosed in the annual financial statements.

3. SUPPLY CHAIN MANAGEMENT

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
MAINTENANCE	MKHEYI CONSTRUCTION	EMERGENCY	ITS012404POH00000070	13 338.20
HPV SYSTEM1	HYDROMET	SOLE SOURCE	ITS012404POH00000109	285 646.72
HPV SYSTEM2	HYDROMET	SOLE SOURCE	ITS012404POH00000109	74 807.59
PENETROLOGGER WITH GPS	GEOWATER SYSTEMS	SOLE SOURCE	ITS012405POH00000016	176 200.00
EC METER SET FOR SOIL	GEOWATER SYSTEMS	SOLE SOURCE	ITS012405POH00000016	20 260.00
SOIL OXYGEN CONTENT ANALYSIS	GEOWATER SYSTEMS	SOLE SOURCE	ITS012405POH00000016	127 500.00
SOIL ENZYMATIC ANALYSIS	UNIVERSITY OF STELLENBOSCH	SOLE SOURCE	ITS012405POH00000018	4 900.00
EMERGENCY REPAIRS, TESTING AND	NKOMAZI COOLHOUSE AIRCONDITIONING A	EMERGENCY	ITS012405POH00000037	305 869.28
REPAIRS & MAINTENCE OF LANDINI	LOVE AND CHARM TRADING	EMERGENCY	ITS012405POH00000051	83 612.00
FIXING OF ELECTRICITY POWER LI	MKHEYI CONSTRUCTION	EMERGENCY	ITS012405POH00000061	138 574.00
REPLACES PSO-074017 (SERVICE F)	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	ITS012405POH00000108	23 582.00
SUPPLY OF MATERIAL FOR REPAIRI	NKOMAZI COOLHOUSE AIRCONDITIONING A	EMERGENCY	ITS01POH00011	23 593.54
LABOUR NORMAL HOURS (1X ASSIS)	NKOMAZI COOLHOUSE AIRCONDITIONING A	EMERGENCY	ITS01POH00011	5 760.00
TRANSPORTATION	NKOMAZI COOLHOUSE AIRCONDITIONING A	EMERGENCY	ITS01POH00011	1 100.00
SANGER SEQUENCING	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	ITS01POH00024	26 086.96
HIRAYAMA HV-85 REPAIR (SN:3041	LABOTEC PTY LTD	SINGLE SOURCE	ITS01POH00028	7 127.00
SERVICE AND REPAIR OF 2 AA INS	CHEMETRIX EXPORT	SOLE SOURCE	ITS01POH00102	130 870.21
FIXING OF 3 PHASE LINE	MKHEYI CONSTRUCTION	EMERGENCY	ITS01POH00106	52 936.88
FIXING NURSERY ELECTRICITY LIN	MKHEYI CONSTRUCTION	EMERGENCY	ITS01POH00128	57 312.00
SENSIFAST CDNA SYNTHESIS KIT 2	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	ITS01POH00144	45 815.00
SERVICING GENERATORS	LERMAT CONSTRUCTION AND PROJECTS	EMERGENCY	ITS01POH00153	84 856.08
FITTING LIBRARY LIGHTS	LERMAT CONSTRUCTION AND PROJECTS	EMERGENCY	ITS01POH00154	57 677.16
SENSIFAST CDNA SYNTHESIS KIT 5	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	ITS01POH00165	10 164.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
SERVICE, TEST & CALIBRATION HI	HANNA INSTRUMENTS (PTY)LTD	SOLE SOURCE	ITS01POH00172	2 200.00
DELIVERY OF HI5222 METER	HANNA INSTRUMENTS (PTY)LTD	SOLE SOURCE	ITS01POH00172	250.00
BLUE SCREW CAPS 100/PK (CODE:	CHEMETRIX EXPORT	SOLE SOURCE	ITS01POH00196	9 648.60
CERTIFIED SCREW TOP VIALS, 2ML	CHEMETRIX EXPORT	SOLE SOURCE	ITS01POH00196	10 033.40
AZOMETHINE-H-MONOSODIUM SALT H	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ITS01POH00208	9 595.00
HPV MAINTANANCE	HYDROMET	SOLE SOURCE	ITS01POH00265	30 100.00
SERVICE AND MAINTENANCE OF A L	LOVE AND CHARM TRADING	SINGLE SOURCE	ITS01POH00267	24 635.39
CRI CONGRESS REGISTRATION - SA	CITRUS RESEARCH INTERNATIONAL	SOLE SOURCE	ITS01POH00284	2 869.57
SENSIFAST CDNA KIT 250 RXNS	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	ITS01POH00307	22 907.50
REPAIRS AND MAINTENANCE OF THE	LOVE AND CHARM TRADING	EMERGENCY	ITS01POH00297	86 900.00
CONGRESS AND ACCOMMODATION FEE	SAVLT	SOLE SOURCE	ITS01POH00383	6 600.00
FUNGAL ID BY ITS SEQUENCING, P	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	ITS01POH00396	25 821.12
IDT OLIGOS	WHITEHEAD SCIENTIFIC	SOLE SOURCE	ITS01POH00445	8 241.00
IDT OLIGOS	WHITEHEAD SCIENTIFIC	SOLE SOURCE	ITS01POH00484	15 632.63
DOUBLE RING INFILTRMETER	GEOWATER SYSTEMS	SOLE SOURCE	ITS01POH00527	64 520.00
DREAMTAQ PCR GREEN 200RXNS	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	ITS01POH00541	1 353.44
DREAMTAQ PCR GREEN 1000RXNS	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	ITS01POH00541	5 693.60
ICE/HAZARDOUS SHIPMENT	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	ITS01POH00541	202.00
ZEISS MICROSCOPE	CARL ZEISS	SOLE SOURCE	ITS01POH00545	178 395.20
SWEEPING INSECT NET AND FRAME	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	7 773.90
SWEEPING INSECT NET AND FRAME	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	3 200.00
TELESCOPIC HANDLES FOR SWEEP O	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	6 304.35
FIXED LENGTH NET HANDLES-HAND	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	1 347.82
5ML SELF STANDING TUBE (10PCS)	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	347.80

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
50ML SELF STANDING TUBE (10PCS)	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	643.50
EMBRYO DISH WITH LID -30MM INT	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	5 869.62
ENTOMOLOGY DISSECTION KIT -FUL	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	6 245.19
NEEDLE PIN HOLDER/ VICE	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	469.56
LARGE WHITE BREEDING CAGE-WIT	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	15 495.60
EXTRA LARGE WHITE BREEDING CAG	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	7 395.64
LARGE WHITE BREEDING CAGE-WIT	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	3 873.90
POCKET MICROSCOPE-CELL PHONE	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	695.70
LOUPE, SEPERATE 20X AND 10X MA	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	826.10
FOAM SETTING BOARD- FLAT STYLE	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	834.78
FOAM SETTING BOARD- FLAT STYLE	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	1 069.56
PINNING BLOCK,3 STAGE	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	478.25
PIN, STAINLESS STEEL, SIZE :0	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	117.39
PIN, STAINLESS STEEL-1, SIZE :	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	234.78
HB6 INSECT ASPIRATOR 6MM PICK	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	8 295.66
0.01G-500G MINI DIGITAL WEIGHI	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	782.60
SHOPPING COST-LARGE BOX	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	247.83
SMALL WHITE BREEDING CAGE WITH	HORNE TECHNOLOGIES	SOLE SOURCE	ITS01POH00618	1 182.60
SANGER SEQUENCING SERVICES	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	ITS01POH00677	26 086.96
MEDIUM SERVICE PLUS CALIBRATION NON-SANAS ALP KT 30L	LASEC SA (PTY)LTD	SOLE SOURCE	ITS01POH00752	2 710.00
TRAVEL COSTS	LASEC SA (PTY)LTD	SOLE SOURCE	ITS01POH00752	8 330.00
SEAL FOR KT-30L AUTOCLAVE	LASEC SA (PTY)LTD	SOLE SOURCE	ITS01POH00752	3 325.00
SPARES PRESSURE CONTROLLER ALP KT1014	LASEC SA (PTY)LTD	SOLE SOURCE	ITS01POH00752	5 916.00
INSTALLATION/SUPPORT WITH DFM	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	ITS01POH00769	710.00
INSTALLATION OF PROBES	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	ITS01POH00771	887.50

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REPAIR OF PH METER	METROHM S A (PTY) LTD	SOLE SOURCE	ITS01POH00795	2 890.00
OLYMPUS STEREO MICROSCOPES	WIRSAM SCIENTIFIC AND PRECISION EQU	SOLE SOURCE	ITS01POH00793	239 700.00
BENZYLDODECYLDIMETHYL-AMMONIUM	MERCK (PTY) LTD	SOLE SOURCE	ITS01POH00909	2 550.00
MCCOWN'S WOODY PLANT MEDIUM (B	MERCK (PTY) LTD	SOLE SOURCE	ITS01POH00909	9 500.00
2-IP (6-Y,Y-DIMETHYLALLYLAMINO	MERCK (PTY) LTD	SOLE SOURCE	ITS01POH00909	14 856.00
STREPTOMYCIN SULPHATE SALT, SI	MERCK (PTY) LTD	SOLE SOURCE	ITS01POH00909	3 518.00
MURASHIGE AND SKOOG BASAL MEDI	MERCK (PTY) LTD	SOLE SOURCE	ITS01POH01017	35 160.00
BATTERY, 12V 7AMP HOUR	LABOTEC PTY LTD	SOLE SOURCE	ITS01POH01032	1 560.00
LABOUR (HRS)	LABOTEC PTY LTD	SOLE SOURCE	ITS01POH01032	1 150.00
TRAVEL (HRS)	LABOTEC PTY LTD	SOLE SOURCE	ITS01POH01032	4 600.00
ACCOMMODATION	LABOTEC PTY LTD	SOLE SOURCE	ITS01POH01032	1 200.00
INTERNATIONAL CITRUS CONGRESS	INTERNATIONAL CITRUS CONGRESS 2024	SOLE SOURCE	ITS01POH00382	32 211.31
IDT OLIGOS	WHITEHEAD SCIENTIFIC	SOLE SOURCE	ITS01POH00491	1 092.00
REPAIRING OF NURSERY COLDROOM	MUSA MAKWAKWA TRADING	EMERGENCY	ITS01POH00825	29 493.60
SOIL ENZYMATIC ANALYSIS	UNIVERSITY OF STELLENBOSCH	SOLE SOURCE	ITS01POH00163	25 200.00
SOIL ENZYMATIC ANALYSES	UNIVERSITY OF STELLENBOSCH	SOLE SOURCE	ITS01POH00899	25 200.00
CLASSIC PLUS PLOT COMBINE	WINTERSTEIGER	SOLE SOURCE	SGI01POH00465	3 400 000.00
NH TRACTOR MAF8308 REPAIRS	OVS AGRI	SINGLE SOURCE	SGI01POH00114	72 190.00
(23/24) ANALYSES ON 1ST YEAR	SAGL	SOLE SOURCE	SGI012405POH00000018	6 470.00
SUPPLY AND INSTALLATION OF SMO	FIRE SOLVE	SINGLE SOURCE	SGI012405POH00000059	17 247.36
KOPPERT MYRMYTHIA PHEROMONE 80	KOPPERT SA	SOLE SOURCE	SGI01POH00026	8 865.00
KOPPERT V-BLOCKS + DELIVERY TO	KOPPERT SA	SOLE SOURCE	SGI01POH00026	635.00
SOLONOID	BETHLEHEM VURKHYSER VELDDIENSTE	SINGLE SOURCE	SGI01POH00299	5 125.43
KOERIER	BETHLEHEM VURKHYSER VELDDIENSTE	SINGLE SOURCE	SGI01POH00299	280.00
ARBEID PER UUR (STRIP & WEER AANMEKAAR SIT)	BETHLEHEM VURKHYSER VELDDIENSTE	SINGLE SOURCE	SGI01POH00299	2 500.00
BEDRADING	BETHLEHEM VURKHYSER VELDDIENSTE	SINGLE SOURCE	SGI01POH00299	1 950.00

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KILOMETERS (STRIP & LATER HERSTEL)	BETHLEHEM VURKHYSER VELDDIENSTE	SINGLE SOURCE	SGI01POH00299	700.00
SUNDRIES	BETHLEHEM VURKHYSER VELDDIENSTE	SINGLE SOURCE	SGI01POH00299	230.00
BUDGETS - RESEARCH CONSUMABLES: ELGA DH2O&UPH2O MACHINE SERVICE	LABOTEC (PTY) LTD	SOLE SOURCE	GCI01POH00254	70 459.00
BUDGETS - RESEARCH CONSUMABLES: SERVICING OF EPPENDORF CENTRIFUGE	EPPENDORF SOUTH AFRICA	SINGLE SOURCE	GCI01POH00256	7 772.85
ELGA DH2O AND UPH2O MACHINES SERVICE AND FILTERS REPLACEMENT	LABOTEC PTY LTD	SOLE SOURCE	GCI01POH00444	70 459.00
QPCR ITAQ MIX	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00722	22 119.70
NATIVE BOVINE RNASAE A	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00722	39 291.00
SEAL ADHESIVE B OPTICAL	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00722	7 313.36
PLATE PCR 96 WELL	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00722	38 077.70
GENERAL FREIGHT	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00722	300.00
GAC CARBON 10 INCH LONG	MERCK LIFE SCIENCE	SOLE SOURCE	GCI01POH00272	176.00
PROGARD TS2	MERCK LIFE SCIENCE	SOLE SOURCE	GCI01POH00272	6 074.90
MUTI-MYCOTOXIN ANALYSIS ON MAIZE SAMPLES	SAGL	SOLE SOURCE	GCI01POH00632	301 994.00
REGISTRATION FOR DR SAFIAH MAALI FOR COMBINED CONGRESS 19-24 JANUARY 2025.	SASCP	SINGLE SOURCE	GCI01POH00572	4 850.00
ANALYSES OF SOYBEAN SEED OIL, PROTEIN AND MOISTURE	SAGL	SINGLE SOURCE	GCI01POH00302	18 750.00
ANALYSE OF SUNFLOWER FOR OIL, PROTEIN AND MOISTURE	SAGL	SINGLE SOURCE	GCI01POH00301	100 000.00
GROUNDNUT SSR FINGERPRINT	CENGEN (PTY) LTD	SINGLE SOURCE	GCI012404POH00000018	55 639.49
REPAIR OF LAPTOP 5CG92532HJ	DATACENTRIX	SINGLE SOURCE	GCI012404POH00000021	8 284.00
LAPTOP 5CG92532HJ Q2543882	DATACENTRIX	SINGLE SOURCE	GCI012404POH00000021	7 873.25
REPAIRS 40KVA GENSETPSO-074321	DOWN TOWN ELECTRICAL AND CONSTRUCTI	EMERGENCY	GCI012405POH00000013	77 930.00
STORAGE REMOVAL 30/04/2024	BIG TO BIG TRADING AND PROJECTS (P	SINGLE SOURCE	GCI012405POH00000003	4 000.00
ARC EXCESS: HZM136NW: A&N PANE	LATERAL UNISON INSURANCE BROKERS	SINGLE SOURCE	GCI012405POH00000077	3 000.00
FACILITIES/VALVE TUBELESS TR41	TARGET TYRES	EMERGENCY	GCI01POH00134	41.76
FACILITIES/BALANCING STANDARD	TARGET TYRES	EMERGENCY	GCI01POH00134	139.12

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FACILITIES/195R14C F/S CV2020	TARGET TYRES	EMERGENCY	GCI01POH00134	7 958.04
SERVICE UPS SCANNER CONTAINER	NO-BREAK POWER SERVICES CC	SINGLE SOURCE	GCI01POH00151	3 800.00
SERVICE TOWER UPS 20KVA 3/3 R	NO-BREAK POWER SERVICES CC	SINGLE SOURCE	GCI01POH00152	6 800.00
SANSOR TRAINING 19-21 AUG 2024	SANSOR	SOLE SOURCE	GCI01POH00174	57 500.00
E23 UPS SERVICE	NO-BREAK POWER SERVICES CC	SINGLE SOURCE	GCI01POH00249	9 150.00
BUDGETS - RESEARCH CONSUMABLES: SERVICING OF AUTOCLAVES& ULT FREEZER	LASEC SA (PTY) LTD	SOLE SOURCE	GCI01POH00316	8 580.40
120CM CLP5 4G SOLAR CELLULAR PROBE, SIMCARD, ANNUAL FEE AND INSTALLATION	DFM TECHNOLOGIES PTY LTD	SINGLE SOURCE	GCI01POH00329	256 015.08
GRAIN ANALYZER GAC 2500 INTL_OEM	RONIN GMS (PTY) LTD	SOLE SOURCE	GCI01POH00330	250 104.48
LAPTOP SCREEN REPAIR QUOTE MQ037475	BLUETEK COMPUTERS	SINGLE SOURCE	GCI01POH00360	2 325.56
MAINTENANCE ON SECURITY CAMERAS HENDRIK SCHOEMAN BUILDING G-CP-24091102	CCTV SECURITY SURVEILLANCE GAUTENG	SINGLE SOURCE	GCI01POH00367	41 947.73
MECHANICAL REPAIRS: JDF 847 NW	TARGET TYRES	SINGLE SOURCE	GCI01POH00389	126 993.68
REPAIR OF 15 X SOIL MOISTURE PROBES	DFM TECHNOLOGIES PTY LTD	SINGLE SOURCE	GCI01POH00571	13 003.00
512GB SSD FFQ067-27-AIZR-SC	DATACENTRIX	SINGLE SOURCE	GCI01POH00691	8 600.00
16 GB DDR4-3200MHZ 260 PIN QQE987YNC/61-SC	DATACENTRIX	SINGLE SOURCE	GCI01POH00691	9 400.00
16GB DDR4-3200MHZ 288 PIN QQE987QRF/61-SC	DATACENTRIX	SINGLE SOURCE	GCI01POH00691	9 734.20
ASSESSMENT ALP CL-40M	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00726	1 260.00
ASSESSMENT HIRAYAMA HV-85	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00726	1 260.00
ASSESSMENT NAUIRE NU-6518E	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00726	1 260.00
TRAVEL COST	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00726	3 000.40
ACCOMODATION	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00726	1 800.00
BIORAD ASSESSMENT	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00763	9 982.00
ULT FREEZER SERVICE AND CALIBRATION	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00763	2 710.00
GENERAL ACCOMODATION	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00763	3 600.00
GENERAL TRAVEL	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00763	4 440.00
AUTOCLAVE SERVICE AND CALBRATION	LASEC SA (PTY)LTD	SOLE SOURCE	GCI01POH00763	5 420.00

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SERVICE AND CALIBRATE SAC-I	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00249	2 000.00
SERVICE AND CALIBRATE DR-A1	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00249	1 500.00
FLIGHTS, TRANSPORT AND MEALS	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00249	3 000.00
CALIBRATE ATAGO CIRCULATING CO	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00249	2 200.00
60 KM ONEWAY	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00249	660.00
CAPEX PEAT AUGER KIT ARCADIA WS UNIT	GEOWATER SYSTEMS	SOLE SOURCE	ISC01POH00536	77 770.00
100CM EXTENSION ROD CONICAL SCREW	GEOWATER SYSTEMS	SOLE SOURCE	ISC01POH00536	4 480.00
PEAT SAMPLER	GEOWATER SYSTEMS	SOLE SOURCE	ISC01POH00536	28 450.00
TRANSPORT	GEOWATER SYSTEMS	SOLE SOURCE	ISC01POH00536	1 000.00
GREENHOUSE GAS EMISSIONS GAS CHROMATOGRAPHY EQUIPMENT	SHIMADZU SOUTH AFRICA	SOLE SOURCE	ISC01POH00334	999 284.95
12VDC 7AH SEALED RECHARGEABLE BATTERY	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	64 152.00
12V 20W SOLAR MODULE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	30 600.00
SOLAR PANEL MOUNTING ASSEMBLY 20-50 W (304 STAINLESS STEEL W/ U-BOLTS)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	34 992.00
CR350 DATALOGGER (-40 TO +70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	105 311.25
38441 -WIFI W/WIRELESS MODEM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	15 318.00
DATALOGGER (-40 TO +70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	315 933.75
38453 -CELL215 W/4G LTE CAT1 EM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	99 650.25
CR350 DATALOGGER (-40 TO +70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	631 867.50
CELL215 4G LTE CAT1 CELLULAR MODULE FOR EMEA COUNTRIES (-40 TO +80C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	116 799.80
1405-PK-021 GILL WINDSONIC 2 AXIS ANEMOMETER, 60M/S, BLACK, OPTION 1, RS232	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	78 300.00
HYGROVUE5 DIGITAL TEMPERATURE/RH SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	104 832.60

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0.5 X 2P OAM BLACK DEFSPEC UV RESISTANT CABLE PER METER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	1 282.50
41303-5A 6 PLATE RADIATION SHIELD WITH OFFSET BRACKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	399.30
E+E ELEKTRONIK HUM/ TEMP TRANSMITTER FOR METEOROLOGICAL APPLICATIONS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	45 198.00
M12 PLUG, 8 PINS, 3M – HA010323	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	89 160.75
HMP60 REPLACEMENT CABLE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	25 543.35
18159 QFT CABLE PER SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	32 167.80
9598 REPLACEMENT RH CHIP FOR HMP60, HMP50, OR CS500	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	3 251.85
32235 HMP60 REPLACEMENT FILTER & CAP	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	51 698.20
SP-110-SS SELF-POWERED SILICON-CELL PYRANOMETER, 5 M CABLE LENGTH WITH CONNECTOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	36 217.20
AL-100 SOLAR SENSOR LEVELING PLATE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	126 982.80
PTB110 1B0CB VAISALA WALL MOUNT BAROMETER WITH 0-2.5V, 500-1100HPA (ALWAYS ON)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	33 596.40
12ALLBROX 4 400X300X200	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	78 571.35
ENCLOSURE MOUNT SET FOR ALL-004 W/ U-BOLTS (M8 62 MM CENTRE)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	32 584.81
BACK PLATE FOR ALL-004, 2 MM ALUMINIUM POWDER COATED	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	9 969.30
BATTERY HOLDER FOR 7AH 12V	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	6 241.50
CM106SS 2 M STAINLESS STEEL TRIPOD W/LIGHTNING SPIKE AND GROUNDING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	2 907.00
CMS1450 1.45 M STAINLESS STEEL POLE FOR CONCRETE CAST INSTALLATION, PROTRUDING 1 M W/WELDED	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	26 535.60

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CM221 RIGHT ANGLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	3 207.60
CM210 CROSSARM-TO-POLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	17 998.60
SM225 SOLAR SENSOR MOUNTING STAND	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	31 784.80
RMY01 STAINLESS STEEL UPRIGHT TO MOUNT RM YOUNG & TFC SENSOR TO RIGHT ANGLE BRACKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	18 764.60
CM100P 1 M ALUMINIUM CROSSARM PIPE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	2 916.00
17387 CLIMAVUE50, METSENS, OR WINDSONIC MOUNTING PIPE KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	1 965.60
17387 CLIMAVUE50, METSENS, OR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00599	21 445.20
RM12/7 12VDC 7AH SEALED RECHARGEABLE BATTERY	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	124 740.00
CS REGULATOR CAMPBELL SCIENTIFIC SDI12 4A MPPT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	38 250.00
SD020 12V 20W SOLAR MODULE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	30 600.00
SPMA SOLAR PANEL MOUNTING ASSEMBLY 20-50 W	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	34 992.00
CR310 DATA LOGGER (-40 TO +70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	199 134.00
WIFI W/WIRELESS MODEM 32410	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	24 508.80
38453 CELL215 W/4G LTE CAT 1	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	132 867.00
CR350 DATA LOGGER (-40 TO +70C) INTERNAL MODEM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	421 245.00
CR350 DATA LOGGER (STANDARD)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	526 556.25
CEL215 4G LTE CAT1 CELLULAR MODULE FOR EMEA COUNTRIES (-40 TO +80C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	175 199.70
RM YOUNG WIND SENTRY ANEMOMETER & VANE (W CROSSARM) 30002	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	248 850.90
R.M. YOUNG FLANGE BEARING SEALED (27122S) 03126S	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	3 847.50
RM YOUNG CUP WHEEL ASSY (03110)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	1 197.90

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SHAFT WITH HUB 03117	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	12 776.00
GILL WINDSONIC 2 AXIS ANEMOMETER, 60M/S BLAK,OPTION1, RS232 1405-PK-021	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	60 264.00
SENSOR CABLE CONNECTING PER SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	50 621.60
0.5 X 2P OAM BLACK DEFSPEC UV RESISTANT CABLE PER METER (3M PER SENSOR)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	125 280.00
HYGROVUE5 DIGITAL TEMPERATURE /RH SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	2 052.00
6 PLATE RADIATION SHIELD WITH OFFSET BRACKET MODEL 41303-5A	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	638.88
E+E ELECTRONIC HUM/ TEMP TRANSMITTER FOR METEOROLOGICAL APPLICATIONS EE181-M1A1	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	209 665.20
M12 3M M12 PLUG, 8 PINS, 3M - HA010323	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	90 396.00
HMP60 REPLACEMENT CABLE HMP60CBL-L	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	178 321.50
9598 REPLACEMENT RH CHIP FOR HMP60, HMP50, OR CS500	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	51 086.70
32235 HMP60 REPLACEMENT FILTER & CAP	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	64 335.60
LI-200R-M5 LICOR LI200R PYRANOMETER, STADARDIZED 5MV MULTIPLIER,5M CABLE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	5 873.70
2003S MOUNTING & LEVELING FIXURE FOR LI-190/190R/200/200R/210/210RLEVELLERS LICOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	77 547.30
SP-110-SS SELF-POWERED SILICON-CELL PYRANOMETER, 5M CABLE WITH CONNECTOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	45 271.50
AL-100 SOLAR SENSOR LEVELING PLATE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	193 582.80
TB4/0.2 HYQUEST: TIPPING BUCKET RAIN GAUGE WITH INJECTION MOLDED BASE & 0.2 MM ABS CHRIME PLATED BUCKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	45 506.40

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PTB110 1B0CB VAISALA WALL MOUNT BAROMETER WITH 0-2.5 V, 500-1100HPA (ALWAYS ON)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	211 638.00
ALL-004 "ALLBROX 4 400X300X200 "	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	55 994.00
EM004 ENCLOSURE MOUNT SET FOR ALL-004 W/ U-BOLTS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	180 149.70
BP004 BACK PLATE FOR ALL-004, 2 MM ALUMINIUM POWDER COATED	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	3 847.50
BH7AH BATTERY HOLDE FOR 7AH 12V	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	1 996.50
CM106SS 2 M STAINLESS STEEL TRIPOD LIGHTNING SPIKE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	157 142.70
CMS1450 1.45M STAINLESS STEEL POLE FOR CONCRETE CAST INSTALLATION, PROTRUDING 1M W/WELDED	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	60 024.65
EM004 ENCLOSURE MOUNT SET FOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	18 364.50
CM210 CROSSARM-TO-POLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	11 497.50
CM225 SOLAR SENSOR MOUNTING STAND	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	5 355.00
RMV01 STAINLESS STEEL UPRIGHT TO MOUNT RMYOUNG AND TFC SENSOR TO RIGHT ANGLE BRACKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	66 339.00
CM100P 1 M ALUMINIUM CROSSARM PIPE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	8 019.00
CLIMAVUE50, METSENS, OR WINDSONIC MOUNTING PIPE KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	44 996.50
CM210 CROSSARM-TO-POLE MOUNTIN	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	79 462.00
CM225 SOLAR SENSOR MOUNTING	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	46 911.50
RMV01 STAINLESS STEEL UPRIGHT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	7 290.00
CM100P 1 M ALUMINIUM CROSSARM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	4 914.00
CLIMAVUE50, METSENS, OR WINDSO	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00614	21 445.20
HAMILTON DILUTOR - SERVICE.	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	4 950.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
HAMILTON - ML600 SYR 1010BFP 1	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	14 766.30
HAMILTON - ML600 SYR 1005BFP 5	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	14 766.30
HAMILTON FILL TUBING - 1 X 1/4	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	3 274.80
HAMILTON - DISPENSE TUBING, TU	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	3 468.60
HAMILTON DILUTOR - 6 POINTS SA	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	11 070.00
COLLECTION AND DELIVERY OF DIL	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	ISC01POH00254	1 500.00
BGP2 NFI TEST SUBSIDY - START	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00063	91 200.00
PM 665 DOSIMAT	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	3 900.00
PM 806 EXCHANGE UNIT	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	990.00
CALIBRATION CERTIFICATE	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	870.00
HOURLY RATE TRAVEL[PER 1HR]	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	1 640.00
TRAVEL RATE	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	809.40
BURETTE CYLINDER	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	13 551.00
PTFE PISTON WITH COUPLING 20 M	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	3 711.00
ANTIDIFFUSION MICRO VALVE	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	1 854.00
PCTFE FLAT STOPCOCK	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00051	14 385.00
SERVICE , CALIBRATE AND CERTIF	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00053	5 000.00
COURIER COST	MONITORING AND CONTROL LABORATORIES	SOLE SOURCE	ISC01POH00053	250.00
RS PRO BATTERY CHARGER FOR LEAD ACID 12 V	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	5 115.00
BLUE LED FLASH INDICATOR FOR RS232 PORT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	4 500.00
HYGROVUE10 DIGITAL TEMP/RH SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	24 700.29
TRACEABLE LAB CALIBRATION & CERTIFICATION/SENSOR FOR HYGROVUE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	8 850.00
RM YOUNG GILL MULTIPLATE RAD SHIELD	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	13 197.81
LI-COR PYRANOMETER 100V OUTPUT & CABLES	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	27 288.18
TRACEABLE LAB CALIBRATION & CERTIFICATION/SENSOR FOR LICOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	8 850.00

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MOUNTING & LEVELING FIXTURE FOR LI-190/190R/200/200R/210/210R	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	6 825.96
MODEL 52260 RAIN GAUGE CALIBRATOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	19 706.34
MODEL 18802/R.M. YOUNG ANEMOMETER DRIVE 200-15,000 RPM, 100-240V	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	120 769.05
MODEL 18112/R.M. YOUNG VANE ANGLE BENCH STAND	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	25 310.88
TRIPOD 7C CARBON WITH BALL HEAD	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	18 000.00
TRIPOD MOUNTING BRACKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00578	5 400.00
BGP2 NFI TEST SUBSIDY, MILESTO	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00051	88 800.00
FIXED ASSET: PV SOL SOFTWARE	GREEN SOLAR ACADEMY	SOLE SOURCE	ISC01POH00370	28 490.00
TENSILE ACCESSORIES	AVATAR SOLUTIONS (PTY) LTD	SOLE SOURCE	ISC01POH00669	152 644.00
PSO-075560-1 (1000005953 : MGI	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH00031	17 823.63
BGP2 NFI TEST SUBSIDY, MILESTO	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00049	88 800.00
BUDGETS - RESEARCH CONSUMABLES	DIAGNOSTECH	SOLE SOURCE	BIO01POH00058	7 475.00
PROFORMA #996 BGP - MQ TESTS (LAB TEST AS UFS) - SIMMENTALER BREEDERS SOCIETY	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00169	22 500.00
ANNUAL ACCREDITATION FEE	SANAS TRADING	SOLE SOURCE	ISC012404POH00000037	38 066.00
HIGH QUALITY COPPER	ANATECH INSTRUMENTS	SOLE SOURCE	ISC012405POH00000038	2 788.80
QUARTZ REACTOR 18 MM DIAM	ANATECH INSTRUMENTS	SOLE SOURCE	ISC012405POH00000038	5 515.44
TRANSACTION COST	I-PLANT NUTRITION LIMITED	SOLE SOURCE	ISC012405POH00000036	2 479.35
ICP SAMPLE COMPART	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000045	5 907.42
ICP SAMPLE COMPART	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000045	5 907.42
ICP SAMPLE COMPARTMENT O-RING	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	2 393.82
AIR FILTER ASSY SERIES	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	7 349.23
MISCELLANEOUS	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	2 525.12
WINDOW VUV DIA	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	27 897.24
FILTER ARGON ICP_OES VISTA	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	6 057.25
FILTER DRIERITE - SMALL	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	2 519.81
FILTER ARGON ICP-OES SHORT	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	6 057.25

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FILTER INLINE AGRO 50	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	3 143.88
BOTTLE ICP - OES WAVECAL	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	13 933.81
SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	10 708.80
SERVICE TRAVEL CHARGE	CHEMETRIX EXPORT	SOLE SOURCE	ISC012405POH00000044	1 129.60
BATTERIES	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC012406POH00000001	71 280.00
DOSIMAT AUTOTITRATOR SERVICE F	METROHM S A (PTY) LTD	SOLE SOURCE	ISC012406POH00000010	36 728.80
77/78/8800 SLIMMER CONE, NI, X	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	14 408.97
ICP-MS SAMPLER CONE,NICKEL	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	16 855.42
LONG LIFE PT SHIELD, ICP-MS SH	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	41 762.90
GRAPHITE GASKET FOR SAMPLING C	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	1 925.18
ICP-MS PERIPUMP TUBE SAMPLE	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	5 624.90
ICP-MS PERIPUMP TUBE DRAIN YEL	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	7 261.54
AGILENT VACUUM FLUID 45 PLATIN	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	2 003.38
GAS CLEAN FILTER CARRIER GAS	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00040	6 665.11
LABBOURKS:SERVICE 2024	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	1 500.00
MILEAGEKS	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	1 134.00
TRAVEL KS	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	1 200.00
LABOUR RKS: SERVICE 2024	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	655.00
MILEAGEKS: TRAVEL(KM)	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	1 134.00
TRAVELKS: TRAVEL TIME	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	1 800.00
LABOURKS: SERVIVE 2024	ANALYTICAL SOLUTIONS	SOLE SOURCE	ISC01POH00066	4 200.00
SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00073	3 105.00
SERVICE TRAVEL CHARGE	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00073	1 689.40
ASSY PWB PIROUETTE Z-AXIS ENC	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00073	7 567.61
SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00073	3 569.60
SERVICE TRAVEL CHARGE	CHEMETRIX EXPORT	SOLE SOURCE	ISC01POH00073	2 080.72
SP PROD, MEM, ASRS 300, 4MM	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00105	38 366.58
AS22 ELUENT CONCENTRATE	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00105	8 246.76
SERVICE LABOUR RATE PER HOUR	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00105	4 280.00
ASSY, KIT, PM, IC	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00105	40 866.00
ASSY, TIP, SAMPLE, AS-DV	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00105	2 998.80
7-ANION SATNDARD	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00105	4 329.72

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IN-FIELD RWH IMPLEMENTS	JAZZ SPIRIT 1422	SOLE SOURCE	ISC01POH00121	243 000.00
CR310 DATALOGGER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	124 458.75
WIFI WIRELESS MODEM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	15 318.00
4G LTE CELLULAR MODULE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	58 399.90
GILL WINDSONIC RS232	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	78 300.00
WIND SENSOR CABLES	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	1 282.50
BLACK DEFSPEC UV RESISTANT CAB	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	242.70
ELEKTRONIK HUM/TEMP TRANSMITTE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	29 720.25
M12 PLUG, 8PINS, ETC	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	8 514.45
RM YOUNG GILL MULTIPLATE RADIA	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	21 996.35
LI-200 M5 PYRANOMETER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	48 395.70
LI MOUNTING AND LEVELING FIXTU	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	11 376.60
RAIN GAUGE TEXAS ELECTRONIC TR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	32 732.10
CABLES FOR RAIN GAUGE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	1 282.50
BLACK DEFSPEC UV RESISTANT CAB	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	242.70
ENCLOSURE MOUNT SET FOR ALL-00	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	2 623.50
BACK PLATE ALUMINIUM FOR ALL-0	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	1 642.50
SS TRIPOD, LIGHTNING SPIKE AND	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	33 169.50
SS POLE FOR CONCRETE INSTALLAT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	4 009.50
RIGHT ANGLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	4 499.65
CROSSARM TO POLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	7 946.20
SOLAR SENSOR MOUNTING STAND	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	4 691.15
SS UPRIGHT TO MOUNT RM YOUNG	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	729.00

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ALUMINIUM CROSSARM PIPE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	491.40
CLIMAVUE50, METSENS, WINDSONIC	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00135	10 722.60
DATALOGGERS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	AEI01POH00039	35 231.40
VOLUMETRIC SOIL MOISTURE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	AEI01POH00039	45 954.00
HYDROSENSE II DISPLAY W/ CARRYI	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	AEI01POH00039	36 167.50
WATER CONTENT SENSOR FOR HYDRO	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	AEI01POH00039	18 509.26
BLUETOOTH 2.1 USB MICRO ADAPTE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	AEI01POH00039	1 191.40
COURIER AND INSURANCE COSTS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	AEI01POH00039	450.00
LABORATORY FLOOR	RESCON FLOORING	SINGLE SOURCE	ISC01POH00179	33 552.00
RWH IMPLEMENTS	JAZZ SPIRIT 1422	SINGLE SOURCE	ISC01POH00209	194 400.00
HIGH QUALITY COPPER (3 BOTTLES)	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00233	2 788.80
SILVERED COBALTOUS COBALLI OXI	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00233	6 768.72
CHROMUM OXIDE GRANULAR (25G)	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00233	2 996.28
SERVICE OF ICP-OES BY SHIMADZU	SHIMADZU SOUTH AFRICA	SOLE SOURCE	ISC01POH00240	47 981.67
HEXAGON - IMAGINE PROFESSIONAL	GEOSPACE INTERNATIONAL	SOLE SOURCE	ISC01POH00245	137 600.00
HEXAGON - IMAGINE ADV-PRO TO I	GEOSPACE INTERNATIONAL	SOLE SOURCE	ISC01POH00245	33 200.00
HEXAGON - IMAGINE EXPANSION PA	GEOSPACE INTERNATIONAL	SOLE SOURCE	ISC01POH00245	18 360.00
PUMP KIT (PIN SP 32-085-044)	SHIMADZU SOUTH AFRICA	SOLE SOURCE	ISC01POH00248	32 128.51
LABOUR TIME	SHIMADZU SOUTH AFRICA	SOLE SOURCE	ISC01POH00248	1 507.14
DIGITAL DISPENSETTE	METROHM S A (PTY) LTD	SOLE SOURCE	ISC01POH00310	56 361.00
SHAFT WITH HUB MODEL 03117	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00314	50 621.60
RM YOUNG FLANGE BEARING MODEL 03126S	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00314	31 940.00
ALPHA II FT-IR SPECTROMETER	BRUKER SA	SOLE SOURCE	ISC01POH00353	3 512 008.00
SAMPLING MODULE FOR DIFFUSE REFLECTANCE MEASUREMENTS	BRUKER SA	SOLE SOURCE	ISC01POH00353	504 160.00

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EXTENSION OF THE ALPHA BASE SPECTROMETER	BRUKER SA	SINGLE SOURCE	ISC01POH00353	262 752.00
ZNSE WINDOWS (2 PIECES) FOR ALPHA BASE SPECTROMETER	BRUKER SA	SINGLE SOURCE	ISC01POH00353	83 904.00
MIR SOURCE, PRE-MOUNTED, PRE-ALIGNED, USER REPLACEABLE	BRUKER SA	SINGLE SOURCE	ISC01POH00353	69 368.00
REFERENCE MIRROR FOR QUICKSNAP SAMPLING MODULE FOR DIFFUSE REFLECTANCE MEASUREMENTS (A528/D)	BRUKER SA	SINGLE SOURCE	ISC01POH00353	59 984.00
SAMPLE CUP (3 PCS) FOR ALPHA QUICKSNAP SAMPLING MODULE FOR DIFFUSE REFLECTANCE MEASUREMENTS (A528/D)	BRUKER SA	SINGLE SOURCE	ISC01POH00353	632 960.00
CARRYING CASE FOR ALPHA FT-IR SPECTROMETER	BRUKER SA	SINGLE SOURCE	ISC01POH00353	66 240.00
NOTEBOOK	BRUKER SA	SINGLE SOURCE	ISC01POH00353	328 992.00
OPUS/LAB, SOFTWARE FOR DATA ACQUISITION AND AUTOMATED (N)IR ANALYSIS IN THE LABORATORY	BRUKER SA	SINGLE SOURCE	ISC01POH00353	431 112.00
OPUS/QUANT, QUANTITATIVE ANALYSIS SOFTWARE USING A FULL SPECTRUM MULTIVARIATE ANALYSIS (PLS) METHOD FOR SETTING UP MODELS	BRUKER SA	SINGLE SOURCE	ISC01POH00353	648 416.00
DESICCANT, RECHARGEABLE, USER REPLACEABLE, SET OF 5 PACKAGES	BRUKER SA	SINGLE SOURCE	ISC01POH00353	27 968.00
TF40600300 - FAN V2S	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00354	2 410.38
LABOUR(TRAVEL & SERVICE LABOUR)	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00354	2 140.00
SERVICE/REPAIR VACUUM SYSTEM	VULOMBE	SINGLE SOURCE	ISC01POH00381	5 300.00
NEW DIST4, WATERPROOF EC TESTER WITH ATC, 19.99 MS/CM	HANNA INSTRUMENTS (PTY)LTD	SOLE SOURCE	ISC01POH00379	19 880.00
PHOSPHATE LOW RANGE CHECKER HC® COLORIMETER: RANGE 0.00 TO 2.50 PPM (MG/L)	HANNA INSTRUMENTS (PTY)LTD	SOLE SOURCE	ISC01POH00379	21 110.00
DELIVERY VIA COURIER	HANNA INSTRUMENTS (PTY)LTD	SOLE SOURCE	ISC01POH00379	180.00

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WATER AND WASTEWATER MULTIPARAMETER PHOTOMETER (WITH BOD / COD) AND PH	HANNA INSTRUMENTS (PTY)LTD	SOLE SOURCE	ISC01POH00418	101 150.00
RWH IMPLEMENTS	JAZZ SPIRIT 1422	SINGLE SOURCE	ISC01POH00459	48 600.00
FURROW PLOUGH	JAZZ SPIRIT 1422	SINGLE SOURCE	ISC01POH00459	27 200.00
DELIVERY	JAZZ SPIRIT 1422	SINGLE SOURCE	ISC01POH00459	40 488.00
CROP TYPE CLASSIFICATION (NW&FS)	GEOTERRAIMAGE	SINGLE SOURCE	ISC01POH00581	1 089 547.08
PICES PREPARATION - UPDATING FIELD BOUNDARIES SPOT 6 (IRRIGATION FOCUS) NW, MP, KZN, LP, GP, WC&FS	GEOTERRAIMAGE	SINGLE SOURCE	ISC01POH00581	935 727.36
PICES WINTER 2024: TELEPHONIC SURVEYING - POINT. ALLOCATION, DATABASE DESIGN, AND CAPACITY MAINTENANCE	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00582	112 380.42
PICES WINTER 2024: FS PROVINCE - POINT FRAME DESIGN, SOFTWARE DESIGN, OFFICE QA, OFFICE PROCESSING AND FIELDWORK - PHASE	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00582	492 002.32
CR350 DATA LOGGER (-40 TO + 70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	42 124.50
38453 CEL215 W/4G LTE CAT1 EM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	13 286.70
CELL215 4G LTE CAT1 CELLULAR MODULE FOR EMEA COUNTRIES (-40 TO +80C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	93 439.84
EE181-M1A1 E+E ELEKTRONIK HUM/TEMP TRANSMITTER FOR METEOROLOGICAL APPLICATIONS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	29 720.25
M12 3M M12 PLUG, 8 PINS, 3M – HA010323	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	8 514.45
MODEL 41003P-20 R.M. YOUNG GILL MULTIPLATE RADIATION SHIELD (20MM ADAPTER)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	21 996.35
SP-110_SS SELF-POWERED SILICON-CELL PYRANOMETER, 5 M CABLE LENGTH WITH CONNECTOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	21 163.80
AL-100 SOLAR SENSOR LEVELING PLATE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00601	5 599.40

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CELL215 4G LTE CAT1 CELLULAR MODULE FOR EMEA COUNTRIES (-40 TO +80C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00598	502 239.14
LOGGERNETADM ADMIN DATALOGGER SUPPORT SOFTWARE (SERVER AND CLIENTS)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00598	36 380.25
LNDB LOGGERNET DATABASE SOFTWARE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00598	47 677.28
LICOR 710 EVAPOTRANSPIRATION SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00600	588 960.45
PICES WINTER 2024: WC PROVINCE - POINT FRAME DESIGN, SOFTWARE DESIGN, OFFICE QA, OFFICE PROCESSING AND FIELDWORK - PHASE 1	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00609	400 905.79
PICES WINTER 2024: TELEPHONIC SURVEYING - TEL SURVEY	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00609	71 735.05
PICES WINTER 2024: FS PROVINCE - POINT FRAME DESIGN, SOFTWARE DESIGN, OFFICE QA, OFFICE PROCESSING AND FIELDWORK - PHASE 2	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00609	373 638.89
PICES WINTER 2024: WC PROVINCE - POINT FRAME DESIGN, SOFTWARE DESIGN, OFFICE QA, OFFICE PROCESSING AND FIELDWORK - PHASE 2	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00609	481 031.87
PICES WINTER 2024: TELEPHONIC SURVEYING - PROCESSING, REPORTING&DISCUSSION, PUBLICITY	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00609	17 791.61
PICES WINTER 2024: FS PROVINCE - POINT FRAME DESIGN, SOFTWARE DESIGN, OFFICE QA, OFFICE PROCESSING AND FIELDWORK - PHASE 3	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00609	489 006.02
12VDC 7AH SEALED RECHARGEABLE BATTERY	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	1 782.00
12V 50W SOLAR MODULE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	4 410.00
SPMA SOLAR PANEL MOUNTING ASSEMBLY 20-50 W (304 STAINLESS STEEL W/ U-BOLTS)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	4 374.00
CR350 DATALOGGER (-40 TO +70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	105 311.25

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
38441 -WIFI W/WIRELESS MODEM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	15 318.00
CELL215 4G LTE CAT1 CELLULAR MODULE FOR EMEA COUNTRIES (-40 TO +80C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	58 399.90
ANT7DB ANTENNA - 7 DB GAIN DUAL BAND MAGNETIC BASE (3.5 METRE CABLE)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	2 164.50
1405-PK-021 GILL WINDSONIC 2 AXIS ANEMOMETER, 60M/S, BLACK, OPTION 1, RS232	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	78 300.00
SENSOR CABLE CONNECTING PER SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	1 282.50
0.5 X 2P OAM BLACK DEFSPEC UV RESISTANT CABLE PER METER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	399.30
EE181-M1A1 E+E ELEKTRONIK HUM/TEMP TRANSMITTER FOR METEOROLOGICAL APPLICATIONS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	29 720.25
M12 PLUG, 8 PINS, 3M – HA010323	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	8 514.45
41003P20 R.M. YOUNG GILL MULTIPLATE RADIATION SHIELD (20MM ADAPTER)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	21 996.35
SP-110-SS SELF-POWERED SILICON-CELL PYRANOMETER, 5 M CABLE LENGTH WITH CONNECTOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	21 163.80
AL-100 SOLAR SENSOR LEVELING PLATE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	5 599.40
910-00018 TEXAS ELECTRONICS MODEL# TR-525I 6" RAIN GAUGE 0.2MM (TR-525-I-20-CA)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	32 732.10
SENSOR CABLE CONNECTING PER SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	1 282.50
0.5 X 2P OAM BLACK DEFSPEC UV RESISTANT CABLE PER METER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	665.50
ALL-004 "ALLBROX 4 400X300X200 "	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	8 574.95
ENCLOSURE MOUNT SET FOR ALL-004 W/ U-BOLTS (M8 62 MM CENTRE)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	2 623.50
BACK PLATE FOR ALL-004, 2 MM ALUMINIUM POWDER COATED	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	1 642.50

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
BATTERY HOLDER FOR 7AH 12V	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	765.00
CM106SS 2 M STAINLESS STEEL TRIPOD W/LIGHTNING SPIKE AND GROUNDING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	33 169.50
CMS1450 1.45 M STAINLESS STEEL POLE FOR CONCRETE CAST INSTALLATION, PROTRUDING 1 M W/WELDED CAP	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	4 009.50
RIGHT ANGLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	4 499.65
CROSSARM-TO-POLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	7 946.20
12V 50W SOLAR MODULE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	4 691.15
STAINLESS STEEL UPRIGHT TO MOUNT RM YOUNG & TFC SENSOR TO RIGHT ANGLE BRACKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	729.00
1 M ALUMINIUM CROSSARM PIPE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00617	491.40
RM12/7 12VDC 7AH SEALED RECHARGEABLE BATTERY	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	3 564.00
SD05012V 50W SOLAR MODULE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	8 820.00
SPMA SOLAR PANEL MOUNTING ASSEMBLY 20-50 W (304 STAINLESS STEEL W/ U-BOLTS)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	8 748.00
CR310 DATALOGGER (-40 TO +70C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	248 917.50
32410 -WIFI W/WIRELESS MODEM	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	30 636.00
CELL215 4G LTE CAT1 CELLULAR MODULE FOR EMEA COUNTRIES (-40 TO +80C)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	116 799.80
ANT 7DB ANTENNA - 7 DB GAIN DUAL BAND MAGNETIC BASE (3.5 METRE CABLE)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	4 329.00
03002 WIND SENTRY ANEMOMETER AND VANE (W/ CROSSARM)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	165 900.60
SENSOR CABLE CONNECTING PER SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	2 565.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
0.5 X 2P OAM BLACK DEFSPEC UV RESISTANT CABLE PER METER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	798.60
EE181-M1A1 E+E ELEKTRONIK HUM/TEMP TRANSMITTER FOR METEOROLOGICAL APPLICATIONS	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	59 440.50
M12 PLUG, 8 PINS, 3M – HA010323	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	17 028.90
41003P-20 R.M. YOUNG GILL MULTIPLATE RADIATION SHIELD (20MM ADAPTER)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	43 992.70
SP-110-SS SELF-POWERED SILICON-CELL PYRANOMETER, 5 M CABLE LENGTH WITH CONNECTOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	42 327.60
AL-100 SOLAR SENSOR LEVELING PLATE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	11 198.80
910-00018 TEXAS ELECTRONICS MODEL# TR-525I 6" RAIN GAUGE 0.2MM (TR-525-I-20-CA)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	65 464.20
SENSOR CABLE CONNECTING PER SENSOR	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	2 565.00
0.5 X 2P OAM BLACK DEFSPEC UV RESISTANT CABLE PER METER	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	1 331.00
ALL-004 "ALLBROX 4 400X300X200 "	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	17 149.90
EM004 ENCLOSURE MOUNT SET FOR ALL-004 W/ U-BOLTS (M8 62 MM CENTRE)	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	5 247.00
BP004 BACK PLATE FOR ALL-004, 2 MM ALUMINIUM POWDER COATED	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	3 285.00
BH7AH BATTERY HOLDER FOR 7AH 12V	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	1 530.00
CM106SS 2 M STAINLESS STEEL TRIPOD W/LIGHTNING SPIKE AND GROUNDING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	66 339.00
CMS1450 1.45 M STAINLESS STEEL POLE FOR CONCTRETE CAST INSTALLATION, PROTRUDING	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	8 019.00
CM221 RIGHT ANGLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	8 999.30
CM210 CROSSARM-TO-POLE MOUNTING KIT	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	15 892.40

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SM225 SOLAR SENSOR MOUNTING STAND	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	9 382.30
RMY01 STAINLESS STEEL UPRIGHT TO MOUNT RM YOUNG & TFC SENSOR TO RIGHT ANGLE BRACKET	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	1 458.00
CM100P 1 M ALUMINIUM CROSSARM PIPE	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00616	982.80
TF33835312 HIGH QUALITY COPPER (3BOTTLES) 50G	ANATECH INSTRUMENTS	SOLE SOURCE	ISC01POH00627	5 577.60
PICES WINTER 2024: WC PROVINCE - FIELDWORK - PHASE 3 AND STATISTICAL ANALYSIS AND REPORTING	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00651	190 573.68
PICES WINTER 2024: FS PROVINCE - FIELDWORK PHASE 4 AND STASTISTACAL ANALYSIS AND REPORTING	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00651	351 226.93
PICES SUMMER 2025 - TEL SURVEYING, FS& KZN PROVINCE POINT FRAME DESIGN, SOFTWARE DESIGN PHASE 2	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00675	482 676.13
PICES SUMMER 2025 - MPUMALANGA, GAUTENG, NW PROVINCE POINT FRAME DESIGN, SOFTWARE DESIGN PHASE 2	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00675	486 428.26
PICES SUMMER: TELEPHONIC SURVEYING - POINT ALLOCATION, DATABASE DESIGN AND CAPACITY MAINTENANCE	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00674	37 378.99
PICES SUMMER 2025: - FS& MPUMALANGA PROVINCE, POINT FRAME DESIGN, SOFTWARE DESIGN PHASE 1	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00674	462 482.97
PICES SUMMER 2025: LIMPOPO, GAUTENG, NW PROVINCE , POINT FRAME DESIGN, SOFTWARE DESIGN PHASE 1	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00674	491 235.05
ASPEN UNSCRAMBLER FOR SMB	ASPEN TECHNOLOGY, INC	SOLE SOURCE	ISC01POH00013	197 797.45
TRANSACTION COST	I-PLANT NUTRITION LIMITED	SOLE SOURCE	ISC01POH00223	2 920.56
96 MICROTUBE-50 AFA FIBER PLAT	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO012404POH00000001	322 147.60
GENOMIC DNA REAGENTS	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 154.00
GENOMIC DNA SCREENTAPE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 734.00
D5000 SCREENTAPE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 734.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
D5000 SCREEN TAPE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 734.00
D5000 REAGENTS	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	7 383.00
RNA SCREEN TAPE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 479.00
RNA SCREENTAPE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 479.00
RNA SCREEN TAPE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 479.00
SCREEN TAPE SAMPLE BUFFER	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	5 673.00
SCREEN TAPE LADDER	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	6 876.00
LOADING TIPS 4200 TAPE STATION 10 PKT	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	37 452.00
DRY ICE AND DELIVERY FEE	DIAGNOSTECH	SOLE SOURCE	BIO012405POH00000018	650.00
(GDC REFERENCE NUMBER: O11084	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	BIO01POH000009	12 898.32
HEAVY METAL IN BIVALVE MOLLUSE	AEC-AMERSHAM	SOLE SOURCE	ISC01POH00106	6 344.00
LS- DELIVERY	AEC-AMERSHAM	SOLE SOURCE	ISC01POH00106	1 196.00
OFFAL (LIVER)	AEC-AMERSHAM	SOLE SOURCE	ISC01POH00106	6 344.00
LS - DELIVERY	AEC-AMERSHAM	SOLE SOURCE	ISC01POH00106	1 196.00
MAINTENANCE/ SERVICE-TEACAN EVO	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH000042	287 241.58
BACH 3 : DNBSEQ-G400RS HIGH-THROUGHPU	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	897 264.20
BACH 3 MGIEASY UNIVERSAL DNA LIBRARY	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	204 532.72
BACH 3 MGIEASY RNA LIBRARY PREP SET	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	284 553.57
BACH 3 MGIEASY RRNA DEPLETION KIT	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	51 619.89
BATCH 1 DNBSEQ-G400RS HIGH-THROUGHPUT	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	897 264.20
BATCH 1 MGIEASY UNIVERSAL DNA LIBRARY PREP	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	204 532.72
BATCH 1 MGIEASY RNA LIBRARY PREP	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	284 553.57
BACH 1 MGIEASY RRNA DEPLETION KIT	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	51 619.89
BACH 2	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	897 264.20
BACH 2: MGIEASY UNIVERSAL DNA LIBRARY PREP SET	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	204 532.72
BACH 2 MGIEASY RNA LIBRARY PREP SET	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	284 553.57
BACH 2 MGIEASY RRNA DEPLETION KIT	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	BIO01POH000048	51 619.89

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
AFFYMETRIX GENETITAN	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	BIO01POH00066	4 373 457.88
INSTALLATION ANAD TRAINING	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	BIO01POH00066	67 414.00
BGP2 NFI TEST SUBSIDY, ZIMEYER BOERDERY - 15 ANIMALS - UNDERGOING NFI TEST - REF ZMGC2412 SIMBRA - INV 0041 - 16/08/2024	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00073	36 000.00
BGP2 NFI TEST SUBSIDY - ZIMEYER BOERDERY - BRAHMAN ANIMALS UNDERGOING NFI TEST	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00073	31 200.00
REPAIRS -80 FREEZER-LABOUR, CALL OUT FEE	UNITED SCIENTIFIC SA	SINGLE SOURCE	BIO01POH00077	10 370.00
BGP2 NFI TEST SUBSIDY, GENTEC SOL - UNDERGOING NFI TEST - REF LRF-1 - 16/07/2024 AND OFFICIAL START AFTER THE ADAPTATION PERIOD ON 06/08-2024 18 SIMMENTALER BULLS 36 BRAHMAN BULLS 16 BRAUNVIEH BULLS 12 SIMBRA BULLS	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00089	196 800.00
1160/200 BGP2 NFI TEST SUBSIDY - LABEC - 20 ANIMALS @ R2400.00 ADAPT 09/08/2024 PO 974	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00120	48 000.00
32-PIN ELECTRODE CARTRIDGE	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	9 091.00
NEEDLE CHANGE CARTRIDGE	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	6 371.00
PREVENTATIVE MAINTENANCE TAPESTATION 4150/4200	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	5 620.00
RNA SCREENTAPE	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	10 958.00
RNA SCREENTAPE SAMPLE BUFFER	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	3 782.00
RNA SCREENTAPE LADDER	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	4 584.00
D1000 SCREENTAPE	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	5 781.00
D1000 REAGENTS	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	2 461.00
D1000 LADDER	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	1 260.00
DRY ICE AND DELIVERY FEE	DIAGNOSTECH	SOLE SOURCE	BIO01POH00125	650.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
1160/200 BGP2 NFI TEST SUBSIDY - ZIMEYER BOERDERY - SIMBRA ANIMALS - START OF ADAPTION 20/08/2024. START OF TEST - 10/09/2024 ZIMEYER INV 0061 (6/11/2024) LRF PO TO ZIMEYER #976 (11/11/2024):	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00135	67 200.00
NEO-TEST - SAWY, SAWYCOMP_BDP+PV. MACQUARIE WAGYU (8191384), BATCH NR 2048003, NEOGEN ORDER 1044268, NEOGEN INV 3795841	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00143	420.00
NEO-TEST - SAWY, SAWYCOMP_BDL+PV, FREDERICKSBURG WAGYU (653998), BATCH NR 2408002, NEOGEN ORDER 1044765, NEOGEN INV 379584	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00143	24 780.00
NEO-TEST - SALL, SALLSTD_BDL, LEADWOOD LIMOUSIN (8176936), BATCH NR 2407001, NEOGEN ORDER 1014663, NEOGEN INV 379581	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00144	4 200.00
NEO-TEST - SASM, SASMCOMP_BDL + PV, KAMAD (479248) - BATCH NR. 2409001 - NEOGEN ORDER 1044712 - NEOGEN INV 379582	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00145	41 580.00
G-TUBE (10)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	33 909.66
0.75% AGAROSE, DYE-FREE W/ EXTERNAL MARKERS, BLUEPIPPIN, 9-30KB, RANGE + T, 10/PK, MARKER E2	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	16 820.79
FLOW CELL, PROMETHION. R10.4.1 (M VERSION)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	229 780.35
SEQUENCING KIT, LIGATION V14	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	37 817.97
SEQUENCING KIT, 16S BARCODING 24 V14	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	37 907.72
SEQUENCING EXPANSION PACK, FLOW CELL WASH KIT XL	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	9 086.07
FLOW CELL, MINION GRIDION, R10.4.1 VERSION	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00152	120 342.80
NEO-TEST - SASI, SASISTD_BDL, B LUEESSE (8527363) BATCH NR 2409009, NEOGEN ORDER 1035965	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00150	35 700.00
FLOW CELL, PROMETHION. R10.4.1 (M VERSION)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00158	76 593.44

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
1.5% AGAROSE, DYE-FREE, W/INTERNAL STANDARDS, BLUEPIPPIN, 250 BP -1.5 KB, 10/ PK, MARKER R2	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00158	15 205.99
BGP - MQ TESTS - SIMMENTALERS BREEDERS SOCIETY (UFS LAB TESTS)	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00159	22 500.00
1160/200 BGP2 NFI TEST SUBSIDY - LIMOUSIN - START OF ADAPTION 15/10/2024; START OF TEST 05/11/2024	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00160	12 000.00
BGP - MQ TESTS - WAGYU SA	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00161	17 740.80
AS PER PROFORMA #1000_ NEO-TEST - SASI, SASISTD_BDL	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00162	12 600.00
NEO-TEST - SALL, SALLSTD_BDL_LEADWOOD - LIMOUSIN (8176936) (BATCH NR 2405001) - NEOGEN ORDER 1055169, NEOGEN INVOICE 382370	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00163	9 660.00
AS PER PROFORMA #1001_ NEO-TEST - SABBSTD_BDL	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00164	40 740.00
NEO-TEST, SABBCOMP_BDL - PH CALITZ (8432034), BATCH NR 2410002 - NEOGEN ORDER 1023592	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00167	840.00
PROFORMA #986_BGP - MQ TESTS - WAGYU SA - CARCASSES	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00168	147 456.00
FLOW CELL, PROMETHION. R10.4.1 (M VERSION)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00165	76 593.45
G-TUBE (10)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00166	11 303.22
FLOW CELL, PROMETHION. R10.4.1 (M VERSION)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00166	153 186.90
SEQUENCING KIT, NATIVE BARCODING 96 V14	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00166	33 635.70
HIGH-PASS PLUS 0.75% AGAROSE CASSETTE FOR 15KB AND 20KB HP, INCLUDES REAGENTS, 10PK	WHITEHEAD SCIENTIFIC	SOLE SOURCE	BIO01POH00166	19 512.11
UNPAID INVOICE - SEQUENCING	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF012405POH00000061	5 583.90
ANNUAL SERVICE OF ALPHA II WIN	BRUKER SA	SOLE SOURCE	INF01POH00325	29 993.50
INSTALLATION AND SUPPORT P/DAY	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00728	5 450.00
ALLBRO CELLULAR DCELL REPEATER	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00728	4 558.50

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12V DC POWERSOURCE SOLAR	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00728	2 790.00
OUTDOOR POLY CABLE 0.5MM X PAI	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00728	61.20
PG7 GLAND	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00728	39.60
30CM 2M TRONICAB TUN PROBE	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00728	96 822.00
STQ6997 REPAIR MAIN WATER PIPE	AGRICO	SINGLE SOURCE	INF01POH00312	19 119.20
ANALYSIS LC-MS PROFILING - 6 SAMPLES	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00702	13 785.57
100CM PROBE STUB ANT SUGARCANE	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00733	230 175.00
ALLBRO CELLULAR DCELL REPEATER	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00733	9 117.00
12V DC POWERSOURCE SOLAR	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00733	5 580.00
OUTDOOR POLY CABLE 0.5MM X 4 P	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00733	122.40
PG7 GLAND	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00733	79.20
INSTALLATION AND SUPPORT P/DAY	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00733	10 900.00
LCMS UNTARGETED PROFILING OF 3	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00748	17 997.60
DATA PROCESSING (TARGETLYNX, M	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00748	8 998.80
REPAIR AGRICO SPRAY PUMP AT EL	IKAPA DISTRIBUTION NETWORK	SINGLE SOURCE	INF01POH00347	7 547.78
STQ6986 SUBMISSION TO REPAIR N	BEVERATECH	SINGLE SOURCE	INF01POH00375	46 551.83
STQ5806- COOILING COIL LEAKING	AF AIRCONDITIONING & REFRIGERATION	SINGLE SOURCE	INF01POH00747	64 106.00
AERIAL BAITING AT OVERBERG FAR	FRUITFLY AFRICA PTY LTD	SINGLE SOURCE	INF01POH00765	39 347.20
LABOUR UPLOAD SOFTWARE	CHEMETRIX EXPORT	SINGLE SOURCE	INF01POH00031	3 569.60
TRAVEL SERVICE CHARGES	CHEMETRIX EXPORT	SINGLE SOURCE	INF01POH00031	2 080.72
G1310-68741 PM KIT FOR 1260 IS	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00376	9 687.68
G1313-68730 PM KIT FOR STANDAR	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00376	19 873.14
0905-1503 SEAL PUMP	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00376	7 624.50
LABOUR SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00376	12 493.60

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
TRAVEL SERVICE TRAVEL CHARGES	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00376	2 080.74
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00476	23 146.20
STQ6959 REPAIR IRRIGATION SYST	BREERIVIER BESPROEING EDMS BPK	SINGLE SOURCE	INF01POH00524	71 962.31
SERVICE OF AMMONIA COMPRESSOR	A.R.E (PTY) LTD	SINGLE SOURCE	INF01POH00592	33 609.26
STRIP BOILER, H/P CLEAN/XRAY F	DDD ELECTRICAL	SINGLE SOURCE	INF01POH00632	6 500.00
LAP AND OVERALL SAFETY VALVES	DDD ELECTRICAL	SINGLE SOURCE	INF01POH00632	6 700.00
PARTS AND CONSUMABLES	DDD ELECTRICAL	SINGLE SOURCE	INF01POH00632	6 200.00
LABOUR	DDD ELECTRICAL	SINGLE SOURCE	INF01POH00632	15 200.00
FVJ SAMPLING AS PER QUOTE ATTA	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00647	48 150.00
SAMPLING AS PER QUOTE ATTACHED	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00651	125 190.00
CM3311-1000 - CELPROBE UNIVERS	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	INF01POH00675	6 110.10
STQ6975 REPLACE ELEC POLES BD	SILVER SOLUTIONS 3108	SINGLE SOURCE	INF012404POH00000012	94 156.00
EMEGENCY AERIAL BAITING AT OVE	FRUITFLY AFRICA PTY LTD	SINGLE SOURCE	INF01POH00035	3 049.50
STQ6978 REPAIR LANDINI CL15745	BEVERATECH	SINGLE SOURCE	INF01POH00053	38 272.14
STQ6980 IRRIGATION MOTOR - NVB	W M SPILHAUS BOLAND (PTY) LTD	SINGLE SOURCE	INF01POH00069	48 863.75
PRIMERS (QUOTE D5502284)	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	INF01POH00106	1 140.30
HANDLING FEE	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	INF01POH00106	267.00
STQ6979 REPAIR CASE CL44800 BD	BEVERATECH	SINGLE SOURCE	INF01POH00137	45 548.22
REGISTRATION OF 3 X LABS	DEPARTMENT OF AGRICULTURE, LAND REF	SINGLE SOURCE	INF01POH00165	1 413.00
NARICH CALIBRATION & CERTIFICA	NARICH CC	SOLE SOURCE	INF01POH00173	8 550.00
STQ6991 REPAIR BORE HOLE DRINK	AGRICO	SINGLE SOURCE	INF01POH00220	13 002.15
IRRIG. BUY-OUT FOR RESALE, GRABOUW	AGRICO	SINGLE SOURCE	INF01POH00220	9 423.62
STQ6993 REPAIR ELECTRICAL CABL	ZZ ELECTRICAL	SINGLE SOURCE	INF01POH00232	7 725.46

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STQ6985 REPAIR COMET PUMP FOR	BEVERATECH	SINGLE SOURCE	INF01POH00267	9 647.54
REPAIR DOOR ACCESS CONTROLLER	SYSCOTECH	SINGLE SOURCE	INF01POH00279	5 500.00
LABOUR, COMMISSIONING AND TRAV	SYSCOTECH	SINGLE SOURCE	INF01POH00279	850.00
S33102 SYBR SAFE DNA GEL STAIN	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	INF01POH00281	12 795.60
YP23_S3 - #IDT5174806	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00304	147.00
YP24_S4	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00304	147.00
PRB_S3/S4	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00304	7 445.00
STQ6988 REPAIR STARTER JD1140	GRABOUW AUTO ELECTRICAL WORKS	SINGLE SOURCE	INF01POH00306	9 222.56
PRESSURE TESTING OF 12 CA ROOM	AF AIRCONDITIONING & REFRIGERATION	SINGLE SOURCE	INF01POH00367	85 850.00
STQ6997-REPAIR MAIN WATER PIPL	AGRICO	SINGLE SOURCE	INF01POH00386	102 528.98
ANNUAL SERVICE OF ALMOR AUTOCL	ROB DYER SURGICAL	SINGLE SOURCE	INF01POH00412	22 844.23
2HRS PXRD @ R506-09/HR	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00416	1 012.18
14HRS PXRD @ R506-09/HR	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00416	7 085.26
SU ANALYTICAL SERVICES - NMR (	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00432	372 360.00
STQ6989 REPAIR HYDRALIC PROBLE	GRABOUW AUTO ELECTRICAL WORKS	SINGLE SOURCE	INF01POH00470	20 955.28
NGS RUN - PROJ2024_008E	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00475	18 915.07
MICROSAT DESIGN - PROJ2024_008	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00475	53 724.52
MICROSAT OPTIMIZATION - PROJ20	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00475	28 331.64
TESTING ON 23 (+1NEG CONTROL)	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00475	15 148.66
STQ6987 REPAIR STARTER JD1140	GRABOUW AUTO ELECTRICAL WORKS	SINGLE SOURCE	INF01POH00473	4 286.63
SERVICE FEE	CENTRE FOR PROTEOMIC AND GENOMIC RE	SINGLE SOURCE	INF01POH00510	75 710.18
ANALYSIS OF ABA, IAA, KIN AND	CENTRE FOR PROTEOMIC AND GENOMIC RE	SINGLE SOURCE	INF01POH00510	25 308.78
CRI SYMPOSIUM ACCOMMODATION M	CITRUS RESEARCH INTERNATIONAL	SINGLE SOURCE	INF01POH00496	2 173.90

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
SUPERTHERM TAQ 250 UNITS	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	INF01POH00508	2 982.20
DELIVERY	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	INF01POH00508	500.00
ADDITION REPAIRS ON CASE TRACT	BEVERATECH	SINGLE SOURCE	INF01POH00497	7 030.00
ANNUAL SERVICE OF THE OENOFOS WINE ANALYSER	RHINE RUHR (PTY) LTD	SOLE SOURCE	INF01POH00531	7 882.00
GAS ANALIZER,PURFICATIO SYSTEM	A.R.E (PTY) LTD	SINGLE SOURCE	INF01POH00528	2 189.52
BUDGETS - ANALYTICAL SERVICES	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00537	4 188.00
POST PCR CLEANUP	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00539	1 375.60
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00539	4 208.40
TO SERVICE 2 X SMC HUMIDITY CABINETS, CHECK AND REPLACE FAULTY DOOR SEALS, DRAIN AND CLEAN BOILER, SERVICE, CLEAN AND TEST, SERVICE 2 X SMC COOLING BATHS, CHECK FAN MOTORS, CLEAN CONDENSOR, CHECK GAS, CLEAN AND TEST PER CABINET.	SCIENTIFIC MANUFACTURING CC	SOLE SOURCE	INF01POH00540	6 900.00
CM3311-1000 - CELPROBE UNIVERS	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	INF01POH00554	18 330.30
STQ6998 REPAIR IRRIGATION PUMP	DDD ELECTRICAL	SINGLE SOURCE	INF01POH00558	53 455.00
ATTEND PROVAR INFI DAY - KOBUS	PROVAR	SOLE SOURCE	INF01POH00560	3 304.36
003548 - BLENDING ASSEMBLY	LENTON FURNACES CC	SOLE SOURCE	INF01POH00567	1 360.00
LEN/T - COURIER SERVICES TO ARC INFRUTEC – NIETVOORBIJ	LENTON FURNACES CC	SOLE SOURCE	INF01POH00567	150.00
BAMPA313402 - REALQ PLUS 2X MMIX, PROBE (W/O ROX) 400RXN	LASEC SA (PTY)LTD	SOLE SOURCE	INF01POH00570	4 185.00
CLP080S4G #603983 - 80CM CLP5	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00571	2 355.00
TH INSTALLATION AND SUPPORT	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00572	355.00
BEAD BASED POST PCR CLEAN-UP	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00581	7 022.04
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00581	17 044.02

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
BEAD BASED POST PCR CLEAN UP	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00583	1 593.96
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00583	3 787.56
BEAD BASED POST PCR CLEAN-UP	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00584	2 929.44
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00584	7 049.07
CARBON CONTENT ANALYSIS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00590	169 400.00
SAMPLE PREPARATION	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00590	33 000.00
PROLOG	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00610	8 083.35
CLP080 80CM PROBE SHORT RANGE	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00610	177 120.00
TD	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00610	10 900.00
FRAGMENT ANALYSIS RUN	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00620	19 956.75
FPG001 - FILTER PROTECTION GRI	HOSPITAL AND LABORATORY SOLUTIONS	SINGLE SOURCE	INF01POH00618	1 900.00
HEPA FILTER 1830X610	HOSPITAL AND LABORATORY SOLUTIONS	SINGLE SOURCE	INF01POH00618	6 900.00
SERVE004 - SEAL	HOSPITAL AND LABORATORY SOLUTIONS	SINGLE SOURCE	INF01POH00618	300.00
LABOUR001 - LABOUR	HOSPITAL AND LABORATORY SOLUTIONS	SINGLE SOURCE	INF01POH00618	1 500.00
SERVE001 - RE-TEST OF LAMINAR	HOSPITAL AND LABORATORY SOLUTIONS	SINGLE SOURCE	INF01POH00618	1 250.00
TRAVEL001 - TRAVEL	HOSPITAL AND LABORATORY SOLUTIONS	SINGLE SOURCE	INF01POH00618	900.00
SUPERTHERM TAQ	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SOURCE	INF01POH00622	2 954.70
GPRS YEARLY SIM CONTRACT	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00637	6 270.00
GPRS YEARLY SIM CONTRACT	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00633	6 270.00
STQ6981 REPAIR LANDINI TRACTOR	VILTECH DIESEL TEGNIESE DIENSTE	SINGLE SOURCE	INF01POH00638	27 896.74
STQ7000 REPAIR STARTER ALTERNA	GRABOUW AUTO ELECTRICAL WORKS	SINGLE SOURCE	INF01POH00676	6 148.06
FRUITFLY AERIEL BAITING AS PER	FRUITFLY AFRICA PTY LTD	SINGLE SOURCE	INF01POH00683	92 329.30

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REPAIR PIPE LINES AS PER QUOTE	W M SPILHAUS BOLAND (PTY) LTD	SINGLE SOURCE	INF01POH00693	66 317.00
REPAIR THE CONDER UNIT OF THE	AF AIRCONDITIONING & REFRIGERATION	SINGLE SOURCE	INF01POH00703	8 950.00
INSTALLATION AND SUPPORT P/DAY	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00727	5 450.00
ALLBRO CELLULAR DCELL REPEATER	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00727	4 558.50
12V DC POWERSOURCE SOLAR	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00727	2 790.00
OUTDOOR POLY CABLE 0.5MM X 4 P	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00727	61.20
PG7 GLAND	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00727	39.60
30CM 2M TRONICAB TUN PROBE	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00727	96 822.00
5182-0717 BLUE SCREW CAPS 100/	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00743	2 885.90
5182-0716 VIAL,SCREW,2ML,AMBR,	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00743	3 000.95
5182-0717 BLUE SCREW CAPS 100/	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00741	1 154.36
5182-0716 VIAL,SCREW,2ML,AMBR,	CHEMETRIX EXPORT	SOLE SOURCE	INF01POH00741	1 200.38
BUDGETS - OCCUP & ENVIR SAFETY	IMMEX	EMERGENCY	INF01POH00746	11 960.00
TH INSTALLATION AND SUPPORT P/	DFM TECHNOLOGIES PTY LTD	SOLE SOURCE	INF01POH00775	532.50
PRG2101-100BP DNA LADDER 250UL	ANATECH INSTRUMENTS	SOLE SOURCE	INF01POH00299	4 729.60
PRM7823-GOTAQ G2 GREEN MASTER	ANATECH INSTRUMENTS	SOLE SOURCE	INF01POH00299	8 867.04
83F - CGC TAC AGA CTG GGT CAC	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	140.00
517R - AGT CTC TTA GGG CCC CC	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	140.00
ENAF2 - AAA GAT GCA CCT CTC GA	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	147.00
ENAR3 - AAG TTA TAG AAG ACA TC	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	168.00
ENHMGF1 - AAA AGT AAA CAT GCC	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	147.00
ENHMGR1 - CCG TGG TCT GTA ACG	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	147.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
UNCIN144 - CCG CCA GAG ACC TCA	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	140.00
UNCIN511 - TGG CTG ATC ACG AGC	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	140.00
CALO3 - CGT GGC GGG GCT ACC CT	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	154.00
CALO4 - CGC TGC GTT CTT CAT C	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	140.00
WT PROBE - /56-FAM/AG CCT ATG	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	7 445.00
MT PROBE - /5HEX/AG CCT ATG G/	WHITEHEAD SCIENTIFIC	SOLE SOURCE	INF01POH00404	9 450.00
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00014	23 224.32
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00002	34 836.48
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00003	11 612.16
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00004	11 612.16
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00005	34 836.48
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00001	34 836.48
BL1506 ECO MICROPLATES -3SETS OF SAME 31 CARBON	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00523	102 000.00
BL1506 ECO MICROPLATES -3SETS OF SAME 31 CARBON	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00907	54 000.00
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00006	34 836.48
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00007	34 836.48
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00012	34 836.48
PROMEGA WIZARD SV GENOMIC DNA	ANATECH INSTRUMENTS	SOLE SOURCE	PHP01POH00013	34 836.48
SCREENING OF WHEAT LINES AGAINST WB	BANGLADESH WHEAT AND MAIZE RESEARCH	SINGLE SOURCE	PHP01POH00495	105 291.19
BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00391	33 024.00
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00391	14 294.00
BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00392	6 604.80
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00392	2 858.80

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BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00393	16 512.00
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00393	7 147.00
BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00394	6 604.80
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00394	2 858.80
BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00395	6 604.80
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00395	2 858.80
BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00396	6 604.80
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00396	2 858.80
BD BACTO AGR 454G X1 214010	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00397	6 604.80
POTATO DEXTR. AGAR 500 G 213400	BECTON DICKINSON (PTY) LTD	SOLE SOURCE	PHP01POH00397	2 858.80
ASSESSMENT	DATACENTRIX	SINGLE SOURCE	PHP01POH00780	650.00
TRAVEL	DATACENTRIX	SINGLE SOURCE	PHP01POH00780	6 050.00
BRUSHCUTTER REPAIR - SUBMISSIO	EIKESTAD TUINSENTRUM BK	SINGLE SOURCE	PHP01POH00132	2 261.74
WIP FIXED ASSETS: COMPUTER EQU	ESIZWE GROUP	SINGLE SOURCE	PHP012405POH00000020	109 387.00
INSTALL NEW WATERPUMP	GLASSCHEM CC	SINGLE SOURCE	PHP01POH00806	2 500.00
SERVICE CALL OUT	GLASSCHEM CC	SINGLE SOURCE	PHP01POH00806	3 600.00
RE-INSTATE OF THE WATER TREATMENT PLANT- SUBMISSION ATTACHED	GREENCHAIN	SINGLE SOURCE	PHP01POH00423	26 750.00
REPAIR OF ROOF DAMAGE-SUBMISS	IDAS CONSTRUCTION AND MAINTENANCE	EMERGENCY	PHP012405POH00000022	28 300.00
ASIST PLUS CONSUMABLES	LABOTEC (PTY) LTD	SOLE SOURCE	PHP01POH00153	100 000.00
EMERGENCY GLASSHOUSE UNIT REPA	MARIUS LOUW	EMERGENCY	PHP01POH00133	10 150.00
SERVICING AND REPAIR OF TANAKA RIDE-ON LAWN MOWER	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00868	9 000.00
SERVICING AND REPAIR OF ER700 STIHL BLOWER BACKPACK	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00868	3 000.00
SERVICING AND REPAIR OF ER800 STIHL BLOWER BACKPACK	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00868	7 000.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
SERVICING AND REPAIR OF STIHL FS 280 PETROL BRUSHCUTTER	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00868	27 860.00
SERVICING AND REPAIR OF STIHL HS 45 PETROL HEDGE TRIMMER	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00868	7 400.00
SERVICING AND REPAIR OF RYOBI LAWNMOWER PETROL	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00868	9 900.00
SERVICING AND REPAIRS OF TANAKA 107CM (42") 15.5 HP RIDE-ON LAWN MOWER TRACTOR	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00521	9 000.00
SERVICING AND REPAIRS OF BR700 STIHL BLOWER BACKPACK	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00521	3 000.00
SERVICING AND REPAIRS OF BR800 STIHL BLOWER BACKPACK	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00521	7 000.00
SERVICING AND REPAIRS OF STIHL FS 280 MEDIUM DUTY PETROL BRUSH CUTTER	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00521	24 500.00
SERVICING AND REPAIRS OF STIHL HS 45 PETROL HEDGE TRIMMER	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00521	4 000.00
SERVICING AND REPAIRS OF RYOBI LAWNMOWER PETROL 4 STROKE 173CC RM-65P	SPRINGFIELD PROJECTS	SINGLE SOURCE	PHP01POH00521	6 000.00
1270654 TRIAC FOR AUTOCLAVE 60	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	PHP01POH00179	1 250.00
LABOUR	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	PHP01POH00179	1 050.00
AUTOCLAVE CALIBRATION	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	PHP01POH00179	1 050.00
CALL/COLLECTION/DELIVERY	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	PHP01POH00179	940.00
Δ13C AND Δ15N ANALYSIS	UNIVERSITY OF CAPE TOWN	SINGLE SOURCE	PHP01POH00045	56 400.00
STANDARDS	UNIVERSITY OF CAPE TOWN	SINGLE SOURCE	PHP01POH00045	19 200.00
CREATE DISEASE FORECASTING MAPS	UNIVERSITY OF KWAZULU NATAL	SINGLE SOURCE	PHP01POH00541	46 000.00
MS L RAPHADU-2024	KMSA DISTRIBUTORS	SINGLE SOURCE	CO002POH00141	1 765.00
MR NICK MOKOTOANE-446003-2024	HYPERION DEVELOPMENT	SINGLE SOURCE	CO002POH00155	39 043.48
MS E MADITSE-COBIT DESIGN & IMPLEMENTATION-2024	TORQUE TECHNICAL COMPUTER TRAINING	SINGLE SOURCE	CO002POH00323	12 200.00

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WORKSHOP: STRATEGIC PLANNING FACILITATION (3D)	NATIONAL SCHOOL OF GOVERNMENT	SINGLE SOURCE	CO002POH00623	175 000.00
RFQ: AP (LAND INVASION) JUNE	SIYEJABULA SECURITY SOLUTION	EMERGENCY	CO002POH00085	108 697.90
E-WASTE THERMAL TREATMENT	A-THERMAL RETORT TECHNOLOGIES	SINGLE SOURCE	CO0022405POH00000020	3 832.30
MICROBIOLOGY SOCIETY 2024/25	SKYLIGHT GROUP	SOLE SOURCE	CO0022404POH00000019	398 517.14
CALL OUT FEE (ASSESSMENT ON F	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	1 050.00
DRYWALL MAIN TEE T38-3600 WHT	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	2 900.00
DRYWALL CROSS TEE T38-1,2 WHT	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	1 932.00
GALV.WIRE 3,15MM X 5KG	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	295.00
WALL PLUG MB (30)	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	390.00
COACH SCREW M6 X 60 (30)	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	847.00
DRYWALL CEILING	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	2 654.00
CORNER BRACKET 75 X 75 GALV	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	1 950.00
LABOUR · 1 X CEILING TECHNICIA	MVT PROJECTS (PTY) LTD	EMERGENCY	CO0022405POH00000089	7 000.00
E-WASTE THERMAL TREATMENT	A-THERMAL RETORT TECHNOLOGIES	SINGLE SOURCE	CO0022405POH00000018	3 832.30
INMAGIC GENIE PLUS RENEWAL YEA	MINDEX STELSLS BK	SOLE SOURCE	CO0022405POH00000093	209 360.00
BUDGETS - COMPUTER SYSTEM MAIN	SETHEWO	SINGLE SOURCE	CO002POH00157	125 217.40
ANNUAL CLOUD SERVICE FOR SECUR	TECHSOLUTIONS	SINGLE SOURCE	CO002POH00226	74 880.00
CC JOHANNESBURG - TICKET FOR 1	TOP EMPLOYERS SOUTH AFRICA	SINGLE SOURCE	CO002POH00743	60 000.00
CC JOHANNESBURG - TICKET FOR 1	TOP EMPLOYERS SOUTH AFRICA	SINGLE SOURCE	CO002POH00742	76 000.00
210 PLASTIC DRUMS	M I M O FOUNDATION	SINGLE SOURCE	API012404POH00000020	39 000.00
BUDGETS - CONSULTATION FEES	KEYSTONE THIBEDI	SINGLE SOURCE	API012405POH00000043	199 750.00
REPAIR TO LABOTEC UNIT SER NO:	IAN MC CORMACK	EMERGENCY	API012405POH00000063	3 190.00
60L INFECTIOUS WASTE PEDAL UNI	RENTOKIL INITIAL	SINGLE SOURCE	API012405POH00000080	1 062.00
REPAIR - UDK UNITS	ANALYTICAL SOLUTIONS	EMERGENCY	API012405POH00000114	41 145.03
REPLACEMENT OF WINDOWS	MONGOPO TRADING ENTERPRISE CC	EMERGENCY	API012405POH00000098	10 720.00
ADDITIONAL WORK CARRIED OUT ON	CYCLOTHERM BOILERS	SINGLE SOURCE	API012405POH00000126	11 003.23

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
FMA SAMPLE KIT (25X30ML)	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	7 554.00
FOSSOMATIC DETERGENT 60045445	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	3 120.00
FOSSOMATIC BUFFER 60064906	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	3 174.00
FOSSOMATIC DYE	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	17 361.00
FTIR EQUALIZER 6X37ML FT6000	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	4 997.00
FOSSCLEAN KIT 2 X 50ML	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	3 246.00
FREIGHT	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API012405POH00000213	650.00
TWINSAYER 2PLY LAMINATE TOWEL	RENTOKIL INITIAL	SINGLE SOURCE	API012405POH00000254	1 584.00
TRANSFORMERS	CHAWITA TRUST	EMERGENCY	API01POH00035	13 500.00
INVOICE: 5084	INFINITE OPPORTUNITY CONSULTING	SINGLE SOURCE	API01POH00095	80 484.94
SWITCH GEAR	VISALEK KONTRAKTEURS	EMERGENCY	API01POH00107	3 304.35
SURGE PROTECTORS	VISALEK KONTRAKTEURS	EMERGENCY	API01POH00107	1 565.22
400M SURFEX	VISALEK KONTRAKTEURS	EMERGENCY	API01POH00107	11 777.39
CONSUMABLES	VISALEK KONTRAKTEURS	EMERGENCY	API01POH00107	2 347.83
CONDUIT	VISALEK KONTRAKTEURS	EMERGENCY	API01POH00107	1 391.30
LABOUR (45 HOURS)	VISALEK KONTRAKTEURS	EMERGENCY	API01POH00107	32 673.91
PSO-064412-6	DIESEL ELECTRIC SERVICES	EMERGENCY	API01POH00193	5 113.00
ARCGIS SURVEY SOFTWARE BUNDLES	ESRI SOUTH AFRICA	SOLE SOURCE	API01POH00231	124 100.00
INV 56004	DAIRY CARE	EMERGENCY	API01POH00241	5 988.00
LABOURKS SERVICE 2024	ANALYTICAL SOLUTIONS	EMERGENCY	API01POH00260	2 940.00
MILEAGE PER KM	ANALYTICAL SOLUTIONS	EMERGENCY	API01POH00260	600.00
TRAVEL TIME PER HOUR	ANALYTICAL SOLUTIONS	EMERGENCY	API01POH00260	1 100.00
ANTIMICROBIAL RESIDUES - MILK	JGK LAB AFRIQA (PTY) LTD	SINGLE SOURCE	API01POH00337	5 641.91
INVESTIGATE MITEL MXEIII REBOO	MITEC (PTY) LTD	SINGLE SOURCE	API01POH00408	3 720.00
PURCHASE NCERA BULL	VLEISSENTRAAL BLOEMFONTEIN	SINGLE SOURCE	API01POH00422	20 000.00
ANNUAL SERVICE OF COMBIFOSS IN	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API01POH00482	103 603.00
TRAINING ON ISO 22003:2022 PAR	FOODBEV INTERNATIONAL CONSULTING	SINGLE SOURCE	API01POH00553	7 000.00
BUYING RTU MACHINE	MOULDPROD	SOLE SOURCE	API01POH00548	688 650.55
CONVERSION WORKS QUOTE 2507/20	BOANA HOLDINGS AND INVESTMENTS (PT	EMERGENCY	API01POH00595	57 276.43
AUGUST 29HO19664	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH00603	3 580.00
STADIUM 29HO19846	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH00603	8 160.00
RAINSTORM 29HO20006	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH00603	2 900.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
JO SUPER 29HO17553	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH00603	2 000.00
BOILER SERVICE (EMERGENCY)	CYCLOTHERM BOILERS	EMERGENCY	API01POH00626	125 185.11
NGUNI BULL CALVES	VLEISSENTRAAL BLOEMFONTEIN	SINGLE SOURCE	API01POH00670	112 640.00
X BONSMARA BULL CALVES	VLEISSENTRAAL BLOEMFONTEIN	SINGLE SOURCE	API01POH00671	154 800.00
BUDGETS - INCREASE IN LIVESTOCK	VLEISSENTRAAL BLOEMFONTEIN	SINGLE SOURCE	API01POH00690	151 640.00
SUPPLY & REPLACE MXEIII 1 X SATA SSD	MITEC (PTY) LTD	SINGLE SOURCE	API01POH00729	6 455.00
FOLLOW UP GENERATOR REPAIRS- POULTRY	WINTERS BUSINESS ENTERPRISE	SINGLE SOURCE	API01POH00773	45 750.00
PHOSPHATASE MI 50 STRIPS	PRIME PHARMA	SINGLE SOURCE	API01POH00794	1 450.00
TWINSSENSOR KIT035	PRIME PHARMA	SINGLE SOURCE	API01POH00794	6 070.00
MAINTENANCE OF CHEESE VATS	INFINITE OPPORTUNITY CONSULTING	EMERGENCY	API01POH00831	99 298.05
EMERGENCY ELECTRICAL WORK AT CEDARA BULL STATION	GMR BUILDERS CC	EMERGENCY	API01POH00884	9 304.00
REPLACT 4 FANS AND CONTACTOR AS PER APPROVED EMERGENCY SUBMISSION	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	12 345.04
FANS 400MM 380V	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	1 800.00
INVOICE I15128 JOB J08861	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	150.00
SUNDRIES	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	220.00
TRAVEL OUT OF TOWN	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	570.70
CONTACTOR	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	2 025.00
THULANI	BLOMEYERS HEATING AND COOLING	EMERGENCY	API01POH00906	450.00
BPC GO-GAS	JEZREEL EDUSCIENCE	SINGLE SOURCE	API01POH00933	137 990.00
20L LABSCALE JACKETED GAS BIOGAS CSTR REACTOR	JEZREEL EDUSCIENCE	SINGLE SOURCE	API01POH00933	179 900.00
WATERBATH RECIRCULATING TEMPERATURE CONTROL	JEZREEL EDUSCIENCE	SINGLE SOURCE	API01POH00933	109 900.00
DELIVERY, INSTALLATION AND TRAINING	JEZREEL EDUSCIENCE	SINGLE SOURCE	API01POH00933	3 950.00
PURCHASING OF AN AFRIKANER BULL AND HEIFERS	VLEISSENTRAAL BLOEMFONTEIN	SINGLE SOURCE	API01POH01033	108 000.00
DOOR DRIVE CONTROL UNIT : SKGPQ-24-0	SKYE ELEVATORS	EMERGENCY	API01POH01171	83 314.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
BRG BEARING TOP WHEEL	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	2 144.00
BS WHEEL SCRAPER STEEL	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	180.00
BRG UPPER GUIDE BEARING	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	760.00
BS UPPER GUIDE BLOCK	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	880.00
BS BRASS LOWER GUIDE	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	276.00
BS NYLON GUIDE	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	80.00
BS SPECIAL SCREW	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	155.00
BRG BEARING CARR	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	1 020.00
BS CARRIAGE WHEEL GROOVE	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	578.00
BS CARRIAGE WHEEL PLAIN	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	578.00
BS V-BELT	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	597.00
BRG BEARING BOTTOM WHEEL	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	576.00
ELEC BSAW CONTACTOR	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	1 300.00
ELEC BSAW OVERLOAD	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	1 380.00
CONSUMABLES	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	250.00
LABOUR	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	3 720.00
TRAVEL TIME	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	920.00
KILOMETERS TRAVELLED	PENTON BUTCHER MAC	SINGLE SOURCE	API01POH01445	729.75
FOSSOMATIC RINSE	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API01POH01492	4 770.00
MSC FT 6000 RINSE CONCENTRATE	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API01POH01492	3 019.00
MSC WASH	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API01POH01492	2 952.00
MSC ZERO CONCENTRATE	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API01POH01492	2 517.00
FREIGHT	RHINE RUHR (PTY) LTD	SINGLE SOURCE	API01POH01492	900.00
EMERGENCY WORK DONE AT THE FACTORY- CHILLER	BASE ENGINEERING AND PROJECTS	EMERGENCY	API01POH01629	50 050.00
EMERGENCY WORK DONE AT THE FACTORY - SERVICE AND REPAIR OF COLDROOMS	BASE ENGINEERING AND PROJECTS	EMERGENCY	API01POH01629	30 250.00
DISBURSEMENTS: CUSTOMS VAT	FEDEX EXPRESS SUPASWIFT (PTY) LTD	SINGLE SOURCE	API01POH01640	7 761.75
DISBURSEMENTS: ROD FEE	FEDEX EXPRESS SUPASWIFT (PTY) LTD	SINGLE SOURCE	API01POH01640	388.09
COLD ROOM_INVOICE_ 5086	INFINITE OPPORTUNITY CONSULTING	EMERGENCY	API01POH01685	133 544.57
BUDGETS - ANALYTICAL SERVICES	MIRNA-YOLANDE UNDERHAY	SOLE SOURCE	API01POH01711	2 240.00
GOAT FEMALE -DOES (API012407R	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	32 200.00
GOAT FEMALE -DOES (API012407R	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	32 200.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
GOAT FEMALE -DOES (API012407R	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	30 184.00
GOAT FEMALE -DOES (API012407R	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	35 420.00
GOAT MALE - BUCK (API012407RF	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	9 200.00
GOAT MALE - BUCK (API012407RF	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	16 100.00
SHEEP FEMALE - EWES (API012407	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	13 800.00
SHEEP FEMALE - EWES (API01240	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	30 184.00
SHEEP FEMALE - EWES (API01240	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	14 400.00
SHEEP FEMALE - EWES (API01240	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	36 225.00
SHEEP FEMALE - EWES	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	48 300.00
SHEEP MALE - RAMS (API012407R	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	8 050.00
SHEEP MALE - RAMS	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	18 400.00
SHEEP MALE - RAMS	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01158	11 500.00
HOLSTEIN BULL: BOXCAR (SEXED F-MALE)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	8 400.00
HOLSTEIN BULL: ENTITY (SEXED F-MALE)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	9 200.00
HOLSTEIN BULL: BOXCAR (NORMAL SEMEN)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	2 600.00
HOLSTEIN BULL: ENTITY (NORMAL SEMEN)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	2 600.00
BROWN SWISS BULL: MADDOX (SEXED F-MALE)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	9 400.00
BROWN SWISS BULL: MADDOX (NORMAL SEMEN)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	2 600.00
BROWN SWISS BULL: SVEN (SEXED F-MALE)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	9 400.00
BROWN SWISS BULL: SVEN (NORMAL SEMEN)	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01380	2 600.00
WATER HOLDING CAPACITY TESTER	GUANGZHOU RUNHU INSTRUM	SOLE SOURCE	API01POH01022	50 176.49
SHIPPING COST TO SOUTHAFRICA VIAFEDEX	GUANGZHOU RUNHU INSTRUM	SOLE SOURCE	API01POH01022	5 647.04
ARCGIS ONLINE CREATOR USER TYPE SUBS 500 CREDITS	ESRI SOUTH AFRICA	SOLE SOURCE	API01POH01261	11 080.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
ARCGIS ONLINE SERVICE CREDITS	ESRI SOUTH AFRICA	SOLE SOURCE	API01POH01261	2 220.00
PROFESSIONAL SERVICES HOURS	ESRI SOUTH AFRICA	SOLE SOURCE	API01POH01261	88 000.00
SAMSUNG RUGGED TABLET (8.0" SAMSUNG GALAXY TAB ACTIVE 3)	ESRI SOUTH AFRICA	SOLE SOURCE	API01POH01261	13 200.00
MOBILE SIM DATA BUNDLE (30GB – 35GB PER MONTH)	ESRI SOUTH AFRICA	SOLE SOURCE	API01POH01261	9 600.00
KAL001 KALAHARI RED 4-5 MONTHS - MALE	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01660	96 000.00
KAL002 KALAHARI RED 4-5 MONTHS - FEMALE	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01660	128 000.00
CAP001 CAPE SPECKELD 4-5 MONTHS - MALE	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01660	94 000.00
CAP002 CAPE SPECKELD 4-5 MONTHS - FEMALE	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01660	114 000.00
TRIMMING OF HOOVES	DAIRYSMID NOORD	SINGLE SOURCE	API01POH01624	16 500.00
TRAVELLING	DAIRYSMID NOORD	SINGLE SOURCE	API01POH01624	2 178.00
SINGLE CELL HOLDER 10MM	PERKINELMER SOUTH AFRICA (PTY) LTD	SINGLE SOURCE	API01POH01064	6 963.00
SERVICE REPAIR LABOR	PERKINELMER SOUTH AFRICA (PTY) LTD	SINGLE SOURCE	API01POH01064	3 694.00
SERVICE TRAVEL	PERKINELMER SOUTH AFRICA (PTY) LTD	SINGLE SOURCE	API01POH01064	3 694.00
MANUFACTURE OF ELECTRONIC LOCKS (CALAN GATES)	CHAWITA TRUST	SOLE SOURCE	API01POH00765	164 750.00
WATER HOLDING CAPACITY TESTER	GUANGZHOU RUNHU INSTRUM	SOLE SOURCE	API01POH01065	44 780.84
SHIPPING COST- SOUTH AFRICA VIA FEDEX	GUANGZHOU RUNHU INSTRUM	SOLE SOURCE	API01POH01065	5 678.92
INVOICE NO: APC600593518 INVOICE DATE: 02-NOV-2024 SEQUENCE NO: 2024ASM00004593 ACCOUNT NO: 3002174482 CUSTOMER VAT/TAX ID: 4140125313 CCC FEDERAL ID: 13-2922432 ORDER NO: 10000788897 ORDER DATE: 01-NOV-2024 MANUSCRIPT ID: MRA00824-24	COPYRIGHT CLEARANCE CENTRE INC	SINGLE SOURCE	API01POH01411	23 691.50
ICAR: INV#: 24700572	INTERNATIONAL COMMITTEE FOR ANIMAL	SINGLE SOURCE	API01POH01468	98 805.34
MEDINA CONFERENCE & EXPO CENTRE: M-J CHIMUKA	WORLD AQUACULTURE SOCIETY INC	SINGLE SOURCE	API01POH01598	8 892.63
LIGHT BOILER FUEL (TECLBF)	THE ENERGY COMPANY	SINGLE SOURCE	API01POH01712	161 400.00

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CALLOUT CHARGE/TRAVEL/ COLLECTION/DELIVERY.	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI01POH00861	950.00
REFRIGERANT GAS R170A (320G)	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI01POH00861	6 400.00
REFRIGERANT GAS R455A (720G)	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI01POH00861	7 200.00
LABOUR CHARGE	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI01POH00861	5 250.00
SERVICING OF POL EKO HUMIDITY	LABEX (PTY) LTD	SOLE SOURCE	OVI01POH00412	2 100.00
MAINTANANCE- TRAVELLING	LABEX (PTY) LTD	SOLE SOURCE	OVI01POH00412	1 426.00
BUDGETS - MAINTENANCE, SERVICING AND REPAIR OF ROTOVAP	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00633	7 387.50
CYCLONE WITH 5L COLLECTING RECEPTACLE/FILTER BAG	VERDER SCIENTIFIC	SOLE SOURCE	OVI01POH00900	70 070.00
RING SIEVE ZM 200 TRAP HOLES 0.50MM, ST	VERDER SCIENTIFIC	SOLE SOURCE	OVI01POH00900	4 361.00
O-RING FOR GRINDING JARS "COMFORT" 125 ML, 1 PIECE	VERDER SCIENTIFIC	SOLE SOURCE	OVI01POH00900	700.00
BUDGETS - LAB EQUIPMENT AND SM	VERDER SCIENTIFIC	SOLE SOURCE	OVI01POH00900	700.00
GASKET FOR ZM200	VERDER SCIENTIFIC	SOLE SOURCE	OVI01POH00900	700.00
LABOUR	VERDER SCIENTIFIC	SOLE SOURCE	OVI01POH00900	4 500.00
CAPILLARY ELECTROPHORESIS INCL ANALYSIS, PER INJECTION	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00956	10 720.87
AAFB MICROSCOPY	THE SCIENTIFIC GROUP (PTY) LTD	SINGLE SOURCE	OVI01POH00986	7 082.00
MYCOBACTERIUM CULTURE	THE SCIENTIFIC GROUP (PTY) LTD	SINGLE SOURCE	OVI01POH00986	8 033.00
MOLECULAR DETECTION OF MYCOBACTERIUM	THE SCIENTIFIC GROUP (PTY) LTD	SINGLE SOURCE	OVI01POH00986	10 578.00
INGEZIM PPA COMPAC; SPECIES	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI012405POH00000097	83 885.48
INGEZIM TGEV 2.0; SPECIES : SW	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI012405POH00000097	20 270.66
PARATB SCREENING KIT	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00049	73 313.85
PK SINGLE SOURCE OF CLASS II T	AIR FILTER MAINTENANCE SERVICES INT	SINGLE SOURCE	OVI01POH00236	900.00
TRANSPORT	AIR FILTER MAINTENANCE SERVICES INT	SINGLE SOURCE	OVI01POH00236	855.00
BIORAD ASSESSMENT	LASEC SA (PTY) LTD	SOLE SOURCE	OVI01POH00411	3 100.00
FULL SERVICE SEQUENCING REACTIONS, NO REPEAT	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00647	12 329.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
PICK-UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00647	201.75
BIDVWNC-2P ID SCREEN WESTNILE COMPETITION MULTI-SPECIES 2 PLATES	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00419	23 656.00
ID SCREEN AFRICAN HORSE SICKNESS INDIRECT 5 PLATE	LASEC SA (PTY) LTD	SINGLE SOURCE	OVI01POH00610	62 732.00
POURQUIER ROSE BENGAL AG 100 ML(P00230 382219004/ES)	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00921	50.00
WORLD COURIER (TRANSPORT, PACKAGING, SUPPLY & EXTRA CHARGES)	WORLD COURIER SA (PTY) LTD	SINGLE SOURCE	OVI01POH00995	59 853.60
3400508 -LAMP W/OUT LENS	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH00231	7 002.50
3402004-LENS PLASTIC UV	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH00231	11 985.12
SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH00231	9 315.00
SERVICE TRAVEL	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH00231	2 080.72
BUDGETS - MAINTENANCE, SERVICING AND CALIBRATION OF FOUR SINGLE CHANNEL GILSON PIPETTES AT 3 POINTS	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00763	2 660.00
BUDGETS - MAINTENANCE, DELIVERY COST NLSCFREIGHT	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00763	300.00
BIOTEK SYNERGY H1 PLATE READER WITH INJECTORS/ SOFTWARE AND LENOVO THINKPAD LAPTOP ON-SITE TRAINING AND GEN5 SOFTWARE PROGRAMMING BIOTEK SYNERGY H1 ANNUAL MAINTENANCE CONTRACT	AFRIVET TRAINING SERVICES (PTY) LTD	SOLE SOURCE	OVI01POH00852	980 000.00
PFA KITS - PACK OF 1000 TESTS	AFRIVET TRAINING SERVICES (PTY) LTD	SOLE SOURCE	OVI01POH00852	360 000.00
K1082 DREAMTAQ POLYMERASE	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00829	4 205.50
HANDLING FEE	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00829	267.00
ICE / HAZARDOUS MATERIAL SHIPMENT	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00829	202.00
WWV SNIDERS MINUS 80 FREEZER R	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH00068	1 990.00
REAL-TIME PCR MACHINE	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00332	419 495.69

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
1 DAY TRAINING	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00332	14 468.07
ICE SHIPMENT	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00332	202.00
MR CAT NO# Z-PATH-CAPRIPOXVIRU	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	OVI01POH00531	17 569.00
CAT NO# Z-PATH-SHEEP POXVIRUS,	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	OVI01POH00531	17 569.00
CAT NO# PPLIS-2ML, PRECISION P	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	OVI01POH00531	5 628.00
LR SNIJDERS UPRIGHT -80 DEGR FREEZER, MODEL: UF 550-86E, SN: UF 511519	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH00579	38 610.00
INGEZIM FVR; SPECIES:RUMINANTS; METHOD: COMPETITIVE ELISA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00719	55 056.10
INGEZIM FVR IGM; SPECIES:RUMINANTS; METHOD: SANDWICH ELISA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00719	71 143.92
DELIVERY PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00719	47.90
ID SCREEN BLUETONGUE COMPETITION-10 PLATES	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00727	40 618.00
ID SCREEN AFRICAN HORSE SICKNESS INDIRECT 5 PLATES	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00727	61 472.00
ID SCREEN RIFT VALLEY FEVER COMPETITION MULTI-SPECIES	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00728	102 700.00
RIFT VALLEY FEVER IGM CAPTURE ANTIBODY ELISA- 4 PLATES	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00728	114 600.00
PK FULL SERVICE SEQUENCING REACTIONS, NO REPEAT	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00774	30 822.50
PICK-UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00774	2 017.50
API 20 NE 25STRIPS+25MEDIA	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	177 778.20
API 20 E 25STRIPS	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	59 901.70
VP1 VP2 REAGENTS	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	46 658.40
JAMES 2AMP	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	9 610.96
NIT1 NIT2 REAGENTS	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	9 776.24

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
API MINERAL OIL 1X125ML	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	4 656.64
TDA REAGENT	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	797.40
API 10 S 50 STRIPS MATERIAL CODE: 10100	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00802	1 347.40
INGWZIM AFRICAN HORSE SICKNESS (AHSV) COMPAC PLUS: SPECIES: EQUINE; METHOD: COMPETATIVE ELISA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00940	121 695.44
DELIVERY PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00940	47.90
DOSEHEADS (YE3010)	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00958	197 180.00
0,5 MC FARLAND STANDARD (E1041)	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00958	3 917.22
CAMPYGEN 2.5 LITRE10 SACHETS (CN0025A)	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00958	10 743.20
DELIVERY & HANDLING	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00958	245.96
CONDA - LOWENSTEIN JENSEN MEDIUM WITH PYRUVATE (LONG TUBE) , PACK OF 20 TUBES	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00996	68 344.00
LOWENSTEIN JENSEN MEDIUM WITH PACT COCKTAIL, 20 TUBES	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00996	68 344.00
SUPPLY AND INSTALL 1X POINT OF	AIR LIQUIDE	SINGLE SOURCE	OVI01POH00018	41 940.13
BIDVBRUS-MS-10P ID SCREEN BRUC	LASEC SA (PTY) LTD	SOLE SOURCE	OVI01POH00122	35 866.00
PREPAYMENT	BRUKER SOUTH AFRICA	SOLE SOURCE	OVI01POH00559	780 000.00
MALDI BIOTYPER	BRUKER SOUTH AFRICA	SOLE SOURCE	OVI01POH00559	2 220 000.00
ELGA PRETREATMENT CARTRIDGE	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	7 460.00
ELGA COMPOSITE AIR VENT FILTER	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	26 648.00
ELGA DI TWINPACK (NEW OPTION)	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	31 020.00
ELGA ULTRA (MK1) POLISH CART	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	49 360.00
ELGA RO MODULE (7L/HR)	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	87 132.00
SUPACARB FILTER 5U 10	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	2 580.00

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FILTER 1/2 S/S WASHER TYPE	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	98.00
BUSH REDUCER 1/2 -1/4 BSP	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	220.00
COUPLING	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	812.00
ELBOW ACETAL 8MM OD X 1/4 BSPM	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	406.00
WASHER 1/2	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	137.00
TRAVEL (HRS)	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	1 600.50
LABOUR (HRS)	LABOTEC (PTY) LTD	SOLE SOURCE	OVI01POH00251	3 201.00
CALL-OUT CHARGE/TRAVEL/ COLLECT	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI012405POH00000028	950.00
1220MM X 610MM X 69MM H14 HEPA	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI012405POH00000028	12 006.00
457MM X 610MM X 69MM H14 HEPA	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI012405POH00000028	7 670.50
610MM X 1830MM X 69MM H14 HEPA	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI012405POH00000028	14 173.75
LABOR CHARGE	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI012405POH00000028	4 200.00
BATTERY, 12V 7AMP HOUR	LABOTEC (PTY) LTD	SINGLE SOURCE	OVI01POH00756	6 240.00
LABOUR (HRS)	LABOTEC (PTY) LTD	SINGLE SOURCE	OVI01POH00756	3 201.00
TRAVEL (HRS)	LABOTEC (PTY) LTD	SINGLE SOURCE	OVI01POH00756	1 600.50
BULK LIQUID NITROGEN	AIR LIQUIDE	SINGLE SOURCE	OVI012405POH00000085	593 640.00
FACILITY FEE MAY-DEC 2024	AIR LIQUIDE	SINGLE SOURCE	OVI012405POH00000085	5 511.92
WINTER TARIFFS JUNE-AUGUST	AIR LIQUIDE	SINGLE SOURCE	OVI012405POH00000085	8 840.00
XPRT MTB/RIF ULTRA,50-TEST KI	CEPHEID (PTY) LTD	SOLE SOURCE	OVI01POH00102	14 981.20
WQT2K QUANTI-TRAY 2000 DISPOSA	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00150	18 393.55
WP200I-18 GAMMA IRAD COLILERT-	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00150	18 229.00
WQTC, PRE-DISP.QT COMPARATOR	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00150	860.00
FREIGHT VALUE	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00150	719.10
TAQ DNA POL 2X MMIX RED 1.5 MM	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00190	30 360.96
SANGER SEQUENCING	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00322	60 869.57
MAGNA PURE FILTER TIPS 1000UL	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012405POH00000098	70 230.84
MR MAGNA PURE 96 DNA/ VIRAL NA	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012405POH00000098	159 151.79

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MAGNA PURE 96 SYSTEM FLUID EXT	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012405POH00000098	24 361.47
MAGNA PURE 96 OUTPUT PLATE	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012405POH00000098	8 267.68
MAGNA PURE 96 PROCESSING CARTR	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012405POH00000098	25 724.72
MAGNA PURE SEALING FOIL	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012405POH00000098	9 877.26
02001 PROFICIENCY TEST 2024	SCIRAD CONSULTING	SOLE SOURCE	OVI012405POH00000101	5 981.78
02001 SHIPPING FEES BY DHL	SCIRAD CONSULTING	SOLE SOURCE	OVI012405POH00000101	2 791.50
SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH000183	3 105.00
TUBING SET SUPPLY SYSTEM	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH000183	3 316.98
SERVICE TRAVEL CHARGES	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH000183	2 080.72
RESEARCH CONSUMABLES_QUECHERS	MICROSEP	SOLE SOURCE	OVI01POH000283	324 235.00
BUDGETS - RESEARCH CONSUMABLES	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH000292	258 296.94
BUDGETS - RESEARCH CONSUMABLES	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH000292	134 724.96
BUDGETS - RESEARCH CONSUMABLES	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH000292	11 600.70
RESEARCH CONSUMABLES-N9307801	PERKINELMER SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH000352	9 825.00
BUDGETS - RESEARCH CONSUMABLES	PERKINELMER SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH000352	32 250.00
BUDGETS - RESEARCH CONSUMABLES	PERKINELMER SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH000352	22 350.00
E 2XACCM-2 POWDER	DIVBIO SCIENCE DIVERSIFIED BIOTECH	SINGLE SOURCE	OVI01POH000420	26 073.81
HANDLING ADMIN	DIVBIO SCIENCE DIVERSIFIED BIOTECH	SINGLE SOURCE	OVI01POH000420	942.55
FED EX FROM WAREHOUSE	DIVBIO SCIENCE DIVERSIFIED BIOTECH	SINGLE SOURCE	OVI01POH000420	1 944.62
FED EX TO LAB	DIVBIO SCIENCE DIVERSIFIED BIOTECH	SINGLE SOURCE	OVI01POH000420	3 135.21
PK SINGLE SOURCE OF CLASS II, TYPE A2 BAKER 4FT, BIOLOGICAL SAFETY CABINET, SN: 97829, MODEL SG403 A HE (REPLACE OVI01POH000236)	AIR FILTER MAINTENANCE SERVICES RSA	SINGLE SOURCE	OVI01POH000498	1 755.00
DOURINE (TRYPANOSOMA EQUIPERDUM) COMPLEMENT FIXATION TEST (CF) ANTIGEN)	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH000680	8 544.33
DOURINE POSITIVE CONTROL SERUM	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH000680	12 243.93

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DOURINE LOW POSITIVE CONTROL SERUM	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	12 243.93
EQUINE NEGATIVE SERUM - PIROPLASMOSIS, DOURINE, AND GLANDERS	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	1 761.72
BRUCELLA PHAGE FI	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	13 160.03
BRUCELLA PHAGE TBILISI	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	13 160.03
BRUCELLA PHAGE WB	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	13 160.03
BRUCELLA PHAGE R/C	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	13 160.03
HANDLING FEES	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00680	1 321.29
SPV/01-SPF EGGS (IN103603)	AVI-FARMS	SOLE SOURCE	OVI01POH00849	7 026.00
SPV/01-SPF EGGS (IN103611)	AVI-FARMS	SOLE SOURCE	OVI01POH00849	7 026.00
BRUCELLA ANTIGEN-BRUCELLA CANIS 2-ME TUBE AGGLUTINATION ANTIGEN(17)	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00888	33 832.95
BRUCELLA CONTROL SERUM-BRUCELLA CANIS HIGH TITER POSITIVE CONTROL SERUM(212-H)	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00888	24 010.48
BRUCELLA CONTROL SERUM-BRUCELLA CANIS NEGATIVE CONTROL SERUM(212-N)	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00888	7 275.90
HANDLING FEES	UNITED STATES DEPARTMENT OF AGRICUL	SINGLE SOURCE	OVI01POH00888	1 364.23
PEAKS STUDIO & Q WITH IMS SERVICE PLAN SUBSCRIPTION (SPS	BIOINFORMATICS SOLUTIONS INC	SOLE SOURCE	OVI01POH00879	107 501.46
FITC ANTI-RABIES	FUJIREBIO DIAGNOSTICS , INC	SOLE SOURCE	OVI01POH00917	276 696.86
PACKAGING AND FREIGHT/KIT	FUJIREBIO DIAGNOSTICS , INC	SOLE SOURCE	OVI01POH00917	2 000.91
SW ESTIMATED MATERIAL COSTS AND R&D COST	BBi SOLUTIONS OEM LTD	SINGLE SOURCE	OVI01POH00937	164 183.94
WATERMICROBIOLOGY PT ROUND 2,5	NATIONAL LABORATORY ASSOCIATION SOU	SOLE SOURCE	OVI012405POH00000006	5 740.00
FOOD MICROBIOLOGY PT ROUND 2,4	NATIONAL LABORATORY ASSOCIATION SOU	SOLE SOURCE	OVI012405POH00000006	10 400.00
HYGIENE SWABS PT ROUND 2,3	NATIONAL LABORATORY ASSOCIATION SOU	SOLE SOURCE	OVI012405POH00000006	5 090.00
WVW WNV-ASSESSMENT	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI012405POH00000014	1 260.00

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MR PURITE/SUEZ SN: PM00722	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI012405POH00000019	1 260.00
GOTAQ® PROBE 1-STEP RT-QPCR SY	ANATECH INSTRUMENTS	SOLE SOURCE	OVI012405POH00000024	12 775.04
GOTAQ G2 HOT START GREEN MASTE	ANATECH INSTRUMENTS	SOLE SOURCE	OVI012405POH00000024	6 158.72
CALL-OUT/TRAVEL/ COLLECTION/DEL	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI012405POH00000032	950.00
1220MM X 610MM X 69MM H14 HEPA	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI012405POH00000032	12 006.00
457MM X 610MM 69MM H14 HEPA FI	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI012405POH00000032	7 670.50
610MM X 1830MM 69MM H14 HEPA F	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI012405POH00000032	14 173.75
915MM X 457MM X 69MM H14 HEPA	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI012405POH00000032	11 339.00
LABOR CHARGE	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI012405POH00000032	4 200.00
BUDGETS - MAINTENANCE: OVR INC	BABAK STEAM SERVICES	SINGLE SOURCE	OVI012405POH00000026	563 483.25
OVR UPS REPAIRS-ERROL	NO-BREAK POWER SERVICES CC	SINGLE SOURCE	OVI012405POH00000034	56 950.00
SERVICE & CALIBRATION LAB SYST	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000041	2 998.32
IMMUNO PLATE F96 MAXISORP PLAT	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000041	193 730.60
PH METER (PSO 069169)	LASEC SA (PTY)LTD	SOLE SOURCE	OVI012405POH00000060	16 726.00
FPH METER BENCHTOP CALIBRATION	LASEC SA (PTY)LTD	SOLE SOURCE	OVI012405POH00000060	1 240.00
LABOUR CHARGES	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI012405POH00000079	8 400.00
FREEZER TIMMER SWITH	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI012405POH00000079	2 200.00
R508 REFRIGERANT	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI012405POH00000079	2 768.00
R404A REFRIGERANT GAS	UNITED SCIENTIFIC SA	SOLE SOURCE	OVI012405POH00000079	620.00
CALL OUT FEE	UNITED SCIENTIFIC SA	SINGLE SOURCE	OVI012405POH00000081	940.00
LABOUR	UNITED SCIENTIFIC SA	SINGLE SOURCE	OVI012405POH00000081	1 050.00
RU-PT100 TEMPERATURE SENSOR	UNITED SCIENTIFIC SA	SINGLE SOURCE	OVI012405POH00000081	1 751.00
FREIGHT	UNITED SCIENTIFIC SA	SINGLE SOURCE	OVI012405POH00000081	1 950.00
SHOEING HOOVES OF 2 HORSES HAL	KAREL JOHANNES SWANEPOEL	SINGLE SOURCE	OVI012405POH00000083	12 000.00
LABOUR	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	OVI012405POH00000084	2 170.00
TRAVEL	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	OVI012405POH00000084	4 340.00

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19.0046: PRESSURE PUMP UP-7000	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	OVI012405POH00000084	8 962.13
22.0046: RO MEMBRANE FOR LAB T	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	OVI012405POH00000084	3 062.84
SALMONELLA MONOVALENT ANTISERA	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	690.00
ANTISERA SALM MONOVALENT H2 3M	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	1 248.00
ANTISERA SALM MONOVALENT H5 3M	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	1 132.00
ANTISERA SALM MONOVALENT HI 3M	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	717.00
ANTISERUM SALMONELLA MONOVALEN	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	1 119.00
ANTISERA SALMONELLA POLYVALENT	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	1 008.00
SALMONELLA MONOVALENT ANTISERA	AEC-AMERSHAM	SINGLE SOURCE	OVI012405POH00000088	712.00
S.T.A.R.	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012406POH00000005	1 061.53
MR LIGHTCYCLER 480 SYBR GREEN	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012406POH00000005	8 118.17
MAGNA PURE 96 DNA AND VIRAL NA	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012406POH00000005	22 735.97
MAGNA PURE EXTERNAL LYSIS BUFF	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012406POH00000005	3 425.42
LIGHTCYCLER 480 SEALING FOIL	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012406POH00000005	2 196.05
LIGHTCYCLER 480 RNA MASTER HYD	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI012406POH00000005	12 364.15
CALL-OUT CHARGE	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	950.00
LABOUR CHARGE	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	8 400.00
BATTERY	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	1 430.00
FREEZER TIMER SWITCH	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	2 200.00
R508B REFRIGERANT GAS	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	5 120.00
R404A REFRIGERANT GAS	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	440.00
CALL OUT CHARGE	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	950.00

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LABOUR CHARGE	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	10 500.00
BATTERY	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	1 430.00
FAN MOTOT FOR FREEZER	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	850.00
R508B REGFRIGERANT GAS	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00007	2 720.00
VIROTYPE ASFV PCR KIT (96)	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH00012	116 965.12
CLEANING SOLUTION BOTTLE (SERI	OBSIDIAN HEALTH PTY LTD	SOLE SOURCE	OVI01POH00054	4 665.00
DECONTAMINATION BOTTLE (SERIAL	OBSIDIAN HEALTH PTY LTD	SOLE SOURCE	OVI01POH00054	5 250.00
4-15% MINI-PROTEAN TGX 10 WELL	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00053	34 200.00
CLEANING SOLUTION CONCENTRATE,	OBSIDIAN HEALTH PTY LTD	SOLE SOURCE	OVI01POH00054	1 300.00
BD ACCURI BACTERIOSTATIC CONCE	OBSIDIAN HEALTH PTY LTD	SOLE SOURCE	OVI01POH00054	2 400.00
BD ACCURI EXTENDED FLOW CELL C	OBSIDIAN HEALTH PTY LTD	SOLE SOURCE	OVI01POH00054	1 515.00
BRUCELLA CFT ANTIGEN 20ML	ONDERSTEEPOORT BIOLOGICAL PRODUCT LT	SOLE SOURCE	OVI01POH00051	8 252.10
M.PARATUBERCULOSIS SCREENING K	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00056	77 715.00
TUBING 1/4 X 7/16 SILICON 50DU	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00084	4 422.60
SERVICE LABOUR	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00084	20 092.80
SERVICE TRAVEL CHARGES	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00084	8 322.88
DEVIATION HF570 SNIJDERS FREEZ	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00086	43 200.00
IDEXX CHLAMYDIOSIS TOTAK AB 2/	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00074	40 440.00
IDEXX INFLUENZA A 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00074	139 650.00
IDEXX PRRS X3 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00074	87 914.00
IDEXX NDV 5/SOLID	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00074	30 025.00
IDEXX AI 5/SOLID	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00074	78 065.00
IDEXX LEUKOSIS BLOCKING 10/STR	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00074	52 749.00

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HIGH PURE EXTRATION KIT	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00080	64 548.60
REPAIR OF NITROGEN GENERATOR_	PEAK SCIENTIFIC AFRICA (PTY) LTD	EMERGENCY	OVI01POH00099	1 754.00
09-5001-LABOUR	PEAK SCIENTIFIC AFRICA (PTY) LTD	SINGLE SOURCE	OVI01POH00099	3 179.00
09-5007T-TRAVEL PER HOUR	PEAK SCIENTIFIC AFRICA (PTY) LTD	SINGLE SOURCE	OVI01POH00099	795.30
09-5007-TRAVEL R/PER KM	PEAK SCIENTIFIC AFRICA (PTY) LTD	SINGLE SOURCE	OVI01POH00099	792.00
TDA REAGENT	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00096	2 021.10
JAMES 2AMP	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00096	3 666.09
VP1 VP2 REAGENTS	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00096	3 604.11
API LISTERIA 10STRIPS+10MEDIA	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00096	4 250.84
SURCHARGES	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00096	1 100.79
SURCHARGES	BIOM EUX SOUTH AFRICA (PTY) LTD	SOLE SOURCE	OVI01POH00096	399.21
NEB M0269L PHI29 DNA POLYMERAS	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI01POH00098	4 894.60
DELIVERY PTA	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI01POH00098	47.90
JF FROM RESEARCH TO C OMMERCIA	SARIMA/SOUTHERN AFRICAN RESEARCH AN	SINGLE SOURCE	OVI01POH00103	4 010.44
TDE SERIES -86°C ULT CHEST FRE	LABOTEC PTY LTD	SINGLE SOURCE	OVI01POH00144	363 033.00
FACTORY INSTALLED CO2 BACKUP (	LABOTEC PTY LTD	SINGLE SOURCE	OVI01POH00144	68 426.00
WATER PURIFICATION SYS CONS	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00154	6 373.99
WATER PURIFICATION SYS CONS	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00154	6 373.99
ANNUAL DISINFECTION PACK	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00154	4 923.47
WATER PURIFICATION SYS CONS	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00154	4 528.99
LABOUR	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00154	3 980.00
IDEXX BVDV AG/SERUM PLUS 5/STR	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	70 314.00
IDEXX BVD TOTAL AB X3 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	45 219.00
IDEXX IBR GB X3 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	32 805.00
IDEXX PRRS X3 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	87 914.00

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IDEXX CHLAMYDIOSIS TOTAL AB 2/	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	20 220.00
IDEXX AI 5/SOLID	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	60 050.00
IDEXX NDV 5/SOLID	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	12 010.00
IDEXX LEUKOSIS SERUM X2 10/STR	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	26 600.00
IDEXX CSFV AB 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	37 364.00
IDEXX LEUKOSIS BLOCKING 10/STR	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00170	35 166.00
SAAVT CONGRESS ATTENDANCE (ONE	SAVETCON	SOLE SOURCE	OVI01POH00186	33 000.00
SAAVT CONGRESS ATTENDANCE (FUL	SAVETCON	SOLE SOURCE	OVI01POH00186	33 800.00
SAAVT CONGRESS ATTENDANCE (ONE	SAVETCON	SOLE SOURCE	OVI01POH00186	2 000.00
SAAVT CONGRESS ATTENDANCE (FUL	SAVETCON	SOLE SOURCE	OVI01POH00186	11 500.00
SOCIAL DINNER ATTENDANCE	SAVETCON	SOLE SOURCE	OVI01POH00186	8 500.00
RBA MO IMMUNOGLOBULINS/ 2 ML H	DIAGNOSTECH	SOLE SOURCE	OVI01POH00184	11 591.00
DELIVERY FEE	DIAGNOSTECH	SOLE SOURCE	OVI01POH00184	280.00
SINGLE ACCOMMODATION: MOLOKO S	SAVETCON	SOLE SOURCE	OVI01POH00186	2 150.00
SINGLE ACCOMMODATION: PRUDY MA	SAVETCON	SOLE SOURCE	OVI01POH00186	3 225.00
RESEARCH CONSUMABLES- AB-446013	SEPARATIONS	SOLE SOURCE	OVI01POH00199	30 124.80
SCIEX-CABLE DETECTOR ASSEMBLY	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00214	19 824.00
LABOUR-SCIEX, LAB-ABS	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00214	3 300.00
TRAVEL AND CALL-OUT	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00214	2 215.00
REPAIRS AND SERVICING OF TAD A	DUP AIR	SINGLE SOURCE	OVI01POH00228	317 397.11
ID SCREEN PPR COMPETITION 10 P	LASEC SA (PTY) LTD	SOLE SOURCE	OVI01POH00233	59 900.00
LAMP W/OUT LENS	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00248	7 002.50
LENS PLASTIC UV	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00248	11 985.12
SERVICE LABOUR	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00248	9 315.00

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SERVICE TRAVEL CHARGES ZONE 1	CHEMETRIX EXPORT	SINGLE SOURCE	OVI01POH00248	2 080.72
MAXWELL 16	ANATECH INSTRUMENTS	SOLE SOURCE	OVI01POH00255	84 510.72
BIDVWNC-2P, ID SCREEN WESTNILE	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00278	23 656.00
BUDGETS - MAINTENANCE-INCUBAT	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH00296	1 200.00
BUDGETS - MAINTENANCE-CALL OU	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH00296	950.00
MVK DEVIATION GOAT ANTI-MOUSE	BIOCOM AFRICA	SOLE SOURCE	OVI01POH00291	39 399.06
PURIFIED RECOMB PROTEIN AG, PE	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SINGLE SOURCE	OVI01POH00303	5 177.50
HANDLING FEE	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SINGLE SOURCE	OVI01POH00303	267.00
ICE / HAZARDOUS MATERIAL SHIPM	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SINGLE SOURCE	OVI01POH00303	202.00
STEAM GENERATOR (BOILER) GUILL	AITEC	SINGLE SOURCE	OVI01POH00312	170 766.33
HIGH PURE EXTRACTION KIT	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00330	80 685.75
FULL SERVICE SANGER SEQUENCING	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00345	21 340.00
PICK UP (PTA)	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00345	6 310.00
CALL-OUT CHARGE	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH00344	950.00
PK SINGLE SOURCE OF SHELLAB AI	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH00344	1 050.00
ELECTRICAL REPAIRS WFI	RMG GROUP	SOLE SOURCE	OVI01POH00353	48 560.00
RMG GROUP WFI START UP	RMG GROUP	SOLE SOURCE	OVI01POH00353	21 350.00
WFI LOOP EQUIPMENT AND SANITAT	RMG GROUP	SOLE SOURCE	OVI01POH00353	148 916.00
MI-SC SERUM 4.85L ADULT BOVINE	STARRATE HEALTHCARE PACKAGING PTY L	SINGLE SOURCE	OVI01POH00350	689 920.00
SERUM 4.85L ADULT BOVINE NZ OR	STARRATE HEALTHCARE PACKAGING PTY L	SINGLE SOURCE	OVI01POH00350	56 980.00
AIRFREIGHT & DELIVERY (SAMPLE)	STARRATE HEALTHCARE PACKAGING PTY L	SINGLE SOURCE	OVI01POH00350	34 960.00
AIRFREIGHT & DELIVERY (BULK)	STARRATE HEALTHCARE PACKAGING PTY L	SINGLE SOURCE	OVI01POH00350	213 089.00
R5651-5EA FOUR-WAY MICR	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	1 183.00
HS29025G-5EA MICROTUBE RACK, 8	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	1 056.00

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R6901-5EA PCR 96 WELL R	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	1 134.00
Z305189-10EA DURAN(R) GRADUATE	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	2 040.00
Z305197-10EA DURAN(R) GRADUATE	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	2 547.00
B8151-100EA BIOHAZARD DISPOS	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	522.00
P5856-500EA PETRI DISHES, VE	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	2 515.00
B8276-200EA BIOHAZARD DISPOS	MERCK LIFE SCIENCE	SOLE SOURCE	OVI01POH00354	7 972.00
SPV/01-SPF EGGS(150 PER WEEK)	AVI-FARMS	SOLE SOURCE	OVI01POH00379	391 320.00
BAIRD PARKER AGAR WITH EGG YOLK AND TELLURITE - PRE-POURED MEDIUM, 120 PLATES Ø 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	84 076.86
BACILLUS CEREUS (ACC. TO MOSSEL) - PRE-POURED MEDIUM, 120 PLATES Ø 90 MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	86 556.54
LISTERIA SELECTIVE AGAR BASE, OXFORD (ISO 11290-1), 320 PLATES	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	114 685.44
BILE ESCULIN AGAR, 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	113 740.80
KF STREPTOCOCCUS AGAR, 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	113 740.80
CETRIMID (CFC) AGAR NO.2 (ISO 16266, ISO 13720, ISO 11059), 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	140 190.72
XLD AGAR(ISO 6579)PRE-POURED MEDIUM-COLD	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	29 225.00
MACCONKEY AGAR NO.3, 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	62 916.48
BRILLIANT GREEN BILE BROTH (BGBB) SINGLE STRENGTH - READY-TO-USE MEDIUM, 50 TUBES 10 ML WITH DURHAM TUBE	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	101 530.50
BRILLIANT GREEN AGAR BASE, MODIFIED (ISO 3565, ISO 6579), 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	42 652.80
CAMPYLOBACTER BLOOD-FREE (CCDA) AGAR (ISO 10272), 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	21 326.40
YERSINIA AGAR (ISO 10273), 320 PLATES, 90MM	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	132 633.60

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SIMMONS CITRATE AGAR (ISO 10273)	ANATECH INSTRUMENTS	SINGLE SOURCE	OVI01POH00383	4 059.00
SENSITITRE AIM DOSEHEADS-YE3010	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00400	1 971.80
SENSITITRE 0.5 MCFARLAND STANDARD-YE1041	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00400	3 917.22
DELIVERY CHARGES (WEIGHT DEPENDED)-DEL	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00400	351.37
VETQAS PT-QU-1021	ON POINT DIAGNOSTICS	SOLE SOURCE	OVI01POH00407	730 022.81
ROYAL GD-QU-0941	ON POINT DIAGNOSTICS	SOLE SOURCE	OVI01POH00407	122 472.64
RAPID ONE PANEL :R8311006	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	55 540.80
RAPID INOCULATION FLUID 2ML:R831006	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	10 799.60
CAMPYL.JEJUNI SUBSP. JEJ ATCC :QB-0325P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 828.15
CAMPYL.COLI ATCC 43478 :QB0121P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 828.15
CAMPYLOBACTER LARI ATCC 35221 :QB-01132P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 828.15
LISTERIA WELSHIMERI ATCC 35897:QB-0816P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 607.52
YERSINIA ENTERO SBSP. ENTATCC :QB-0909P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 412.24
PW SUGAR MALTOSE 3ML IN TUBES :520206	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	6 958.00
HAEMOLYSIN REAGENT FOR M-BACT:MB1249A	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	13 558.75
STREPTOCOCCAL GROUP KIT:DR0585A	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	66 902.20
ENTERO. FAECALIS ATCC 29212 :QB-0366P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 412.24

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ENTERO.AEROGENES ATCC 13048 :QB-0306P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 265.04
E COLIATCC 25922 :QB-0335P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 037.83
BACILLUS CEREUS ATCC 10876 :QB-0998P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 265.04
KLEB PNEUM SUBSP. PNEUM ATCC 13883:QB-0351P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 037.83
PW SUGAR SORBITOL 3ML IN TUBES:520116	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	6 679.70
PW SUGAR DULCITOL 3ML TUBES 50:520115	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	7 267.20
PW SUGAR LACTOSE 3ML IN TUBES :520211	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	6 633.30
M-BACT 12L LISTERIA 20 TESTS: MB1128A	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	110 686.75
M-BACT PROG FOR WINDOWS: MB1244A	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 433.05
# M-BACT INDOLE KOVACS 10ML:MB0209A	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 820.84
# SPOT INDOLE REAGENT 15ML: R8309002	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	3 774.15
#GRAM STAIN SET :R40080	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	2 763.13
OXIDASE STRIPS 100 / PK :MB0266B	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 164.26
BACTIDROP OXIDASE :R21540	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 546.54
STAPHYL.AUREUS SUBSP. AURATCC :QB-0360P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 037.83

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LISTERIA MONOCYTOGENES ATCC 76:QB-0398P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 560.51
SALMO.ENT SUBSP. ATCC 14028 :QB-0363P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 412.24
PSEUDOMONAS AERUGINOSA ATCC 27853:QB-0353P	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	1 037.83
PW SUGAR ARABINOSE 3ML IN TUBE:520111	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	7 190.00
UREA AGAR 3ML SLOPES IN TUBES :520104	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	8 047.50
CONTROL DEC. BROTH 3ML IN TUBE :520126	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	4 762.40
MOTILITY TEST MEDIUM 5ML IN TUBES :520003	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	8 535.20
PW SUGAR GLUCOSE + DURHAM 7ML:520209	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	7 978.60
TRIPLE SUGAR IRON AGAR 9ML IN TUBES:524802	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	4 762.40
LATEX GROUP.REAGENT D : DR0589G	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	2 151.98
LDC BROTH 3ML TUBES 50/ PK:520212	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	4 762.40
DELIVERY CHARGES - IC (WEIGHT	LABORATORY SPECIALITIES/TA THERMO F	SOLE SOURCE	OVI01POH00413	245.96
MR CAT NO# 4415328 VETMAX RT-PCR	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00421	51 100.00
ICE/HAZARDOUS MATERIAL SHIPMENT	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00421	202.00
RABIES CONJUGATE X 1 BOX JANUARY 2025	AEC-AMERSHAM	SINGLE SOURCE	OVI01POH00426	12 170.00
RABIES CONJUGATE X 1 BOX NOVEMBER 2024	AEC-AMERSHAM	SINGLE SOURCE	OVI01POH00426	12 170.00
RABIES CONJUGATE X 1 BOX SPETEMBER 2024	AEC-AMERSHAM	SINGLE SOURCE	OVI01POH00426	12 170.00

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Z-PATH-CAPRIPOXVIRUS GENESIG RT-PCR KIT FOR CAPRIPOXVIRUS	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	OVI01POH00437	17 569.00
R00948 GENEISG RT-PCR KIT FOR MONKEYPOX VIRUS (MPX)	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	OVI01POH00437	17 569.00
PPLUS-10ML PRECISION PLUS QPCR MASTERMIX (10ML)	CELTIC MOLECULAR DIAGNOSTICS	SOLE SOURCE	OVI01POH00437	13 367.00
REPAIR AND OR SERV FRIDGE/FREEZER	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	OVI01POH00471	2 733.34
PROTO SCRIPT II REVERSE TRANSCRIPTASE 4 000 UNITS X 20	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI01POH00484	36 504.72
MURINE RNASE INHIBITOR 3000 UNITS X 20	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI01POH00484	28 431.54
DELIVERY	INQABA BIOTECHNICAL INDUSTRIES	SOLE SOURCE	OVI01POH00484	47.90
SEP-PAK VAC ALIMINA B 12CC 20/BOX	MICROSEP (PTY) LTD	SINGLE SOURCE	OVI01POH00486	43 968.00
SEP-PAK VAC C18 3CC 500MG 50/BOX	MICROSEP (PTY) LTD	SINGLE SOURCE	OVI01POH00486	44 670.00
GRAPHITIZED CARBON BLACK,25G	MICROSEP (PTY) LTD	SINGLE SOURCE	OVI01POH00486	11 017.00
OASIS HLB 60MG 100/BOX	MICROSEP (PTY) LTD	SINGLE SOURCE	OVI01POH00486	162 620.00
OASIS HLB 6CC/200MG CRT 30/BOX	MICROSEP (PTY) LTD	SINGLE SOURCE	OVI01POH00486	17 316.00
CALL OUT CHARGERS	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00506	1 900.00
LABOUR CHARGE	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00506	8 400.00
COMP TECUMSEH AE4440Z 1/4HP	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00506	2 624.40
FILTER DRIER	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00506	750.00
R404A GAS	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00506	840.00
FLUSHING LIQUID	UNITED SCIENTIFIC PTY LTD	SOLE SOURCE	OVI01POH00506	920.00
FULL-SERVICE SEQUENCING REACTIONS, NO REPEATS	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00519	49 316.00
PICK-UP PRETORIA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00519	161.40
16 BOXES FOR IRRADIATION BOX SIZE: 400X400X320 WEIGHT PER BOX: 20KG DOSE OF IRRADIATION: 1KGY	LABEX (PTY) LTD	SINGLE SOURCE	OVI01POH00522	16 320.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
FULL-SERVICE SEQUENCING REACTIONS, NO REPEATS	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00526	24 658.00
PICK-UP PRETORIA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00526	161.40
ANNUAL SERVICE OF ELECTRIC SCOOTER	ELEKSA SA	SINGLE SOURCE	OVI01POH00533	8 475.20
CONDA - LOWENSTEIN JENSEN MEDIUM WITH PYRUVATE (LONG TUBE) , PACK OF 20 TUBES	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00557	16 833.00
LOWENSTEIN JENSEN MEDIUM WITH PACT COCKTAIL, 20 TUBES	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SOURCE	OVI01POH00557	6 834.50
FULL SERVICE SEQUENCING REACTIONS, NO REPEAT	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00561	49 316.00
PICK-UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00561	403.50
SRLV ANTIBODY TEST KIT,CELISA 2-PLATE FORMAT(2PLATES,MAXIMUM 184 SAMPLES)	BIOCOM AFRICA	SINGLE SOURCE	OVI01POH00555	173 827.00
PROTEIN G-HRP(1.0ML)	BIOCOM AFRICA	SINGLE SOURCE	OVI01POH00555	6 098.49
BLUETONGUE VIRUS ANTIBODY TEST KIT,CELISA V2 2 PLATE(1 KIT)	BIOCOM AFRICA	SINGLE SOURCE	OVI01POH00555	13 766.84
FULL SERVICE SEQUENCING REACTI	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00546	12 329.00
PICK UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00546	161.40
FULL SERVICE SEQUENCING REACTIONS, NO REPEAT (IB SE0005)	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00572	49 316.00
PICK UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00572	161.40
FULL SERVICE SEQUENCING REACTIONS, NO REPEAT (IB SE0005)	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00574	30 822.50
PICK UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00574	161.40
PK SUPPLY & INSTALLATION OF SOLID-STATE RELAYS INCL THE VALIDATION OF 1X BAKER BIOSAFETY CABINET, SN: 97828, MODEL SG403A-HE	AIR FILTER MAINTENANCE SERVICES RSA	SINGLE SOURCE	OVI01POH00589	12 383.67
FULL SERVICE SEQUENCING REACTIONS, NO REPEAT	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00596	123 290.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
PICK-UP PTA	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00596	2 017.50
QIAAMP VIRAL RNA MINI KIT (250) CAT# 52906 (APPROVED DEVIATION)	QIAGEN SA	SOLE SOURCE	OVI01POH00612	31 752.00
BUDGETS - ANALYTICAL SERVICES	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00646	17 753.76
BUDGETS - ANALYTICAL SERVICES	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00646	40.35
MR ASSESSMENT OF ECO 48, COLLECTION & DELIVERY	VACUTEC CC	SINGLE SOURCE	OVI01POH00658	2 420.00
PPR ELISA KIT	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00650	59 900.00
SW TRANSPORT SAMPLES THAT NEED TO BE KEPT REFRIGERATED AT 4 - 8 °C TO WALES, UNITED KINGDOM (UK)	WORLD COURIER SA (PTY) LTD	SINGLE SOURCE	OVI01POH00675	34 707.97
IDEXX BVDV TOTAL AB X3 5/ STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00683	75 365.00
IDEXX CHLAMYDIOSIS TOTAL AB 2/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00683	60 660.00
IDEXX BVDV AS/SERUM PLUS 5/ STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00683	140 628.00
IDEXX IBR GB X3 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00683	54 675.00
IDEXX LEUKOSIS BLOCKING 10/ STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH00683	52 749.00
TG1 ELECTRO-COMP CELLS 5 X 0.1 ML CAT#200123	DIAGNOSTECH	SOLE SOURCE	OVI01POH00685	24 515.68
DRY ICE AND DELIVERY FEE	DIAGNOSTECH	SOLE SOURCE	OVI01POH00685	650.00
ANTI-SHEEP RED BLOOD CELL (RBC) (RABBIT) ANTIBODY - 213-4139	BIOCOM AFRICA	SINGLE SOURCE	OVI01POH00693	511 484.00
GUINEA PIG COMPLEMENT (LYOPHILIZED) WITH DILUENT - C200-0005	BIOCOM AFRICA	SINGLE SOURCE	OVI01POH00693	264 132.90
IMPORT PERMIT EXCL. VAT \$	BIOCOM AFRICA	SINGLE SOURCE	OVI01POH00693	900.00
MR # 06543588001 MAGNA PURE 96 DNA & VIRAL NA SV KIT	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	90 943.88
# 06640729001 MAGNA PURE 96 SYSTEM FLUID (EXTERNAL)	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	13 920.84
# 04729692001 LIGHTCYCLER 480 MULTIWELL PLATE 96	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	6 883.18
# 04729757001 LIGHTCYLCER 480 SEALING FOIL	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	2 349.77

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
# 06241611001 MAGNA PURE 96 OUTPUT PLATE	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	8 846.42
# 06241603001 MAGNA PURE 96 PROCESSING CARTRIDGE	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	14 699.84
# 06241638001 MAGNA PURE SEALING FOIL	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SOURCE	OVI01POH00707	4 938.63
BUDGETS - ANALYTICAL SERVICES	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00714	123 290.00
BUDGETS - ANALYTICAL SERVICES	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH00714	121.05
LABOUR	RAUSERV C.C.	SINGLE SOURCE	OVI01POH00715	2 920.00
TRAVEL TIME	RAUSERV C.C.	SINGLE SOURCE	OVI01POH00715	1 390.00
KILOMETERS	RAUSERV C.C.	SINGLE SOURCE	OVI01POH00715	1 310.00
EQUITRON ELEMENT 7441/4072 3.5KW SPIRAL	RAUSERV C.C.	SINGLE SOURCE	OVI01POH00715	3 780.00
G-BLOCK GENEFRAGMENT 2001-2250BP	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH00741	14 420.00
G-BLOCK GENE FRAGMENT 501-750	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH00741	4 380.00
G BLOCK GENE FRAGMENT 1001-1250	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH00741	7 210.00
BIDVBRUS-MS-10P ID SCREEN BRUCellosis SERUM INDIRECT MULTI-SPECIES-10 PLATES	LASEC SA (PTY)LTD	SOLE SOURCE	OVI01POH00732	35 866.00
ARCGIS DESKTOP BASIC SINGLE USE PRIMARY MAINTENANCE (87192) (08DEC24-07DEC25)	ESRI SOUTH AFRICA	SOLE SOURCE	OVI01POH00737	9 588.24
ARCGIS SPATIAL ANALYST FOR DESKTOP SINGLE USE PRIMARY MAINTENANCE (122187) (08DEC24-07DEC25)	ESRI SOUTH AFRICA	SOLE SOURCE	OVI01POH00737	11 985.30
ARCGIS ONLINE CREDITS; BLOCK OF 1,000 (153418) (08DEC24-07DEC25)	ESRI SOUTH AFRICA	SOLE SOURCE	OVI01POH00737	2 310.21
CALL OUT FEE ASSESSMENT 1 HOUR	AMS LABORATORY TECHNOLOGIES	SINGLE SOURCE	OVI01POH00755	5 082.00
TRAVEL TIME P/HOUR-TRAVEL/HOUR	AMS LABORATORY TECHNOLOGIES	SINGLE SOURCE	OVI01POH00755	2 432.10
AAFB MICROSCOPY NEQ/AAFB	THE SCIENTIFIC GROUP (PTY) LTD	SOLE SOURCE	OVI01POH00766	8 876.01
MYCOBACTERIUM CULTURE	THE SCIENTIFIC GROUP (PTY) LTD	SOLE SOURCE	OVI01POH00766	10 097.01
MYCOBACTERIUM (MOLECULAR)	THE SCIENTIFIC GROUP (PTY) LTD	SOLE SOURCE	OVI01POH00766	13 259.01

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
EMERGENCY REPAIRS OF VERY HIGH LEVEL STAIRCASE TO TAD WATWER SUPPLY TANKS ON EMERGENCY DELEGATION THROUGH SCM PROCESES AND APPROVED SUBMISSION AS ATTACHED.	MATHOBO HOLDINGS	SINGLE SOURCE	OVI01POH00770	48 644.64
URGENT OR EMERGENCY REPAIRS OF THE GENERAL WASTE INCINERATOR AT TAD	BURNER TECHNICAL SOLUTIONS	SINGLE SOURCE	OVI01POH00764	44 967.53
H5N8 ANTIGEN	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	35 670.40
H5N6 ANTIGEN, INACTIVATED	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	133 764.00
INACTIVATED AVIAN INFLUENZA H5N1 ANTIGEN	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	8 917.60
INACTIVATED AVIAN INFLUENZA H7N7 ANTIGEN	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	8 917.60
INACTIVATED AVIAN INFLUENZA H6N8 ANTIGEN	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	4 458.80
H5N6 ANTISERUM, INACTIVATED	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
H5N8 ANTISERUM	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
AVIAN INFLUENZA H5N1 ANTISERUM(CHICKEN)	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
AVIAN INFLUENZA H6N2 ANTISERUM(CHICKEN)	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
H5N8 ANTISERUM	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
AVIAN INFLUENZA H7N1 ANTISERUM(CHICKEN)	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
AVIAN INFLUENZA H7N7 ANTISERUM(CHICKEN)	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	5 088.90
INACTIVATED AVIAN INFLUENZA H6N2 ANTIGENS ANTIGEN	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	4 458.80
TRAVEL	DELTAMUNE (PTY) LTD	SINGLE SOURCE	OVI01POH00779	125.00
HOT STAR TAQ MASTERMIX KIT(2500)	QIAGEN SA	SOLE SOURCE	OVI01POH00780	27 950.00
BUDGETS - MAINTENANCE	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00782	10 080.00
BUDGETS - MAINTENANCE	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00782	1 480.00
FLO-PRO004RA RNA FLOW CELL	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH00823	76 593.45
SQK-RNA004 SEQUENCING KIT, DIRECT RNA	WHITEHEAD SCIENTIFIC	SOLE SOURCE	OVI01POH00823	12 605.99
FLO-PRO114M FLOW CELL	WHITEHEAD SCIENTIFIC	SINGLE SOURCE	OVI01POH00825	153 186.90
SQK-NBD114.96 SEQUENCING KIT	WHITEHEAD SCIENTIFIC	SINGLE SOURCE	OVI01POH00825	16 817.85

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THERAPAK ABSORBENT POUCHES	LABORATORY SPECIALIST SERVICES (PTY	SOLE SOURCE	OVI01POH00828	345.00
CLINICAL TRIAL RIGID OUTER	LABORATORY SPECIALIST SERVICES (PTY	SOLE SOURCE	OVI01POH00828	1 078.50
PAHOSEAL A5	LABORATORY SPECIALIST SERVICES (PTY	SOLE SOURCE	OVI01POH00828	1 578.00
COURIER	LABORATORY SPECIALIST SERVICES (PTY	SOLE SOURCE	OVI01POH00828	950.00
IDT5174272 ARCTIC PRIMERS	WHITEHEAD SCIENTIFIC	SINGLE SOURCE	OVI01POH00824	10 458.36
FLO-PRO114M FLOW CELL	WHITEHEAD SCIENTIFIC	SINGLE SOURCE	OVI01POH00824	76 593.45
PURELINK GENOMIC DNA KIT (250) 250 RXN	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00851	48 499.00
CALIBRATION OF CALIBRI BALANCE BY MICROSEP	MICROSEP (PTY) LTD	SOLE SOURCE	OVI01POH00859	5 469.00
ANNUAL FEES	SACNASP	SINGLE SOURCE	OVI01POH00892	1 530.43
SERVICE LABOUR	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH00908	1 552.50
SERVICE TRAVEL CHARGES	CHEMETRIX EXPORT	SOLE SOURCE	OVI01POH00908	2 080.72
K1082 DREAMTAQ GREEN PCR MASTERMIX	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00914	4 205.50
HANDLING FEE	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00914	267.00
ICE / HAZARDOUS MATERIAL SHIPMENT	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SOURCE	OVI01POH00914	202.00
BIO-RAD BIORAD ASSESSMENT	LASEC SA (PTY)LTD	SINGLE SOURCE	OVI01POH00919	3 100.00
FISHERBRAND FLUORESCENT MICROSCOPE SLIDES	VACUTEC CC	SOLE SOURCE	OVI01POH00918	35 840.00
IDEXX AI 5/SOLID	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00957	84 070.00
IDEXX INFLUENZA A 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00957	121 030.00
IDEXX CSFV AB 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00957	56 046.00
IDEXX NDV 5/SOLID	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00957	30 025.00
IDEXX PRRS X3 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SOLE SOURCE	OVI01POH00957	131 871.00
BULKLIQUID NITROGEN (JAN-APRIL 2025)	AIR LIQUIDE	SINGLE SOURCE	OVI01POH01011	364 600.00
FACILITY FEE JAN- APRIL 2025	AIR LIQUIDE	SINGLE SOURCE	OVI01POH01011	3 018.32
LT145-6020-00 : HOSE FITTING, FLASK COVER, LABOUR,ETC	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	INF01POH00955	13 866.84
SERVICE OF APPLIED BIOSYSTEMS GENEAMP 9700 PCR SYSTEMS.	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SUPPLIER	OVI01POH01170	23 111.00

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HP PCR TEMPLATE PREPARATION KIT,100PC, REAGENTS, KITS; MATERIAL NO#11796828001	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SUPPLIER	OVI01POH01286	5 379.05
POCKIT CENTRAL CARTRIDGE SET (B) 24RXN	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	OVI01POH01381	9 299.94
MATERIAL	GROWTH ASSIST	EMERGENCY	ITS01POH01449	22 142.00
ASSEMBLY, OPTIMA LXP DISPLAY/TOUCHSCREEN PACKAGE	AMS LABORATORY TECHNOLOGIES	SINGLE SOURCE	OVI01POH01034	35 700.50
TECHNICIAN TIME ON SITE	AIR FILTER MAINTENANCE SERVICES RSA	SINGLE SOURCE	OVI01POH01285	51 968.56
CUSTOMS VAT	FEDEX EXPRESS SUPASWIFT (PTY) LTD	SINGLE SOURCE	OVI01POH01284	14 246.91
INSTALLATION AND SUPPORT P/HOU	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH00926	925.00
POURQUIER ROSE BENGALÉ AG 100 ML	IDEXX LABORATORIES (PTY) LTD	SOLE SUPPLIER	OVI01POH01332	114 300.00
IDEXX BLUETONGUE COMPETITION 10/STRIP	IDEXX LABORATORIES (PTY) LTD	SINGLE SOURCE	OVI01POH01111	75 876.00
HIGH PURE EXTRACTION	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SUPPLIER	OVI01POH01169	107 581.00
N2820033 KIT-12 MONTHS QSUGHT MS PM ACCESSORIES	PERKINELMER SOUTH AFRICA (PTY) LTD	SOLE SUPPLIER	OVI01POH01183	366 822.59
MR # 06543588001, MAGNA PURE 96 DNA AND VIRAL NA SV KIT	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SUPPLIER	OVI01POH01236	96 828.59
02594-HONEY-CHLORAMPHENICOL	AEC-AMERSHAM	SOLE SUPPLIER	OVI01POH01268	219 284.00
GLCLVAULT100-PWR5 ULTRA-LOW TEMPERATURE UPRIGHT FREEZERS, GLOBAL COOLING + 5 ADJUSTABLE SHELVES	VWR INTERNATIONAL FZ-LLC (INCORPORA	SOLE SUPPLIER	OVI01POH01275	403 044.57
(10100000) MEMBERSHIP FEE-202	NATIONAL LABORATORY ASSOCIATION SOU	SOLE SUPPLIER	OVI01POH01384	24 909.00
MR # Z-PATH-BVDV, GENESIG RT-PCR KIT FOR BOVINE VIRAL DIARRHOEA VIRUS (ADV)	CELTIC MOLECULAR DIAGNOSTICS	SOLE SUPPLIER	OVI01POH01387	36 542.00
VALIDATION OF BIOSAFETY CABINET	AFMS GROUP	SINGLE SOURCE	OVI01POH01018	14 961.95
UREA AGAR SLOPES 3ML IN TUBES (520104)	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SINGLE SOURCE	OVI01POH01058	10 507.78
SERUM (TRANSPORT, PACKAGING, S	WORLD COURIER SA (PTY) LTD	SINGLE SOURCE	OVI01POH01125	40 876.67
PROVIDING CRITICAL, READIN, AU	NATIONAL SCHOOL OF GOVERNMENT	SINGLE SOURCE	CO002POH00881	68 000.00

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UNISTEL DNA TEST - BRAHMAN SOCIETY (INV F90201)	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00201	18 060.00
EXPRESS CARRIER PRICE @ 1KGY PER CARRIER BLOOD IRRADIATION	LABEX (PTY) LTD	SINGLE SOURCE	OVI01POH01382	6 150.00
LR REPAIR TO FREEZER - AMENDMENT TO OVI01POH00579	UNITED SCIENTIFIC SA	SINGLE SOURCE	OVI01POH01185	13 500.00
ACTIVATED CHARCOAL, SUITABLE F	MERCK LIFE SCIENCE	SOLE SUPPLIER	ITS01POH01050	10 485.00
STADIUM	ABS SOUTH AFRICA	SINGLE SOURCE	API01POH01723	16 640.00
AGAR, PURIFIED, PLANT CELL CUL	MERCK LIFE SCIENCE	SOLE SUPPLIER	ITS01POH01142	27 604.00
ENGINEERING SUPPORT TO TEST AP'S MITEL MXEIII CONTROLLER	MITEC (PTY) LTD	SINGLE SOURCE	API01POH01806	6 900.00
EMERGENCY REPAIR CEDARA GENERATOR	CATO RIDGE ELECTRICAL CONSTRUCTION	EMERGENCY	PHP01POH00995	9 079.40
MAINTENANCE DAIRY FACTORY	INFINITE OPPORTUNITY CONSULTING	SINGLE SOURCE	API01POH01849	126 325.00
M3001/RL 2000MM COMBINATION FEEDER ROOFLESS	JACAGE SUPPLIERS CC	SINGLE SOURCE	API01POH01848	149 869.50
LABOURKS : LABOUR 2025	ANALYTICAL SOLUTIONS	EMERGENCY	API01POH01886	2 907.50
EMERGENCY REPAIR AS PER APPROVED SUBMISSION	BLOMEYERS HEATING AND COOLING	SINGLE SOURCE	PHP01POH01038	11 304.00
BIO-RAD BIORAD T100 PM MAINTENANCE	LASEC SA (PTY)LTD	SOLE SUPPLIER	PHP01POH01114	11 690.00
MINI SERVICE	SCOTSMAN ICE SYSTEMS SA (PTY) LTD	SINGLE SOURCE	PHP01POH01113	6 901.73
WHQT-20 IRRADIATED HPC 100ML,	IDEXX LABORATORIES (PTY) LTD	SOLE SUPPLIER	ITS01POH01293	9 978.79
RO MEMBRANE	GIC SCIENTIFIC CC	SOLE SUPPLIER	ITS01POH01294	10 560.00
SERVICE OF AUTO ANALYSERS	DERMO TECH	SOLE SUPPLIER	ITS01POH01308	49 992.80
EF #1000016952 : DNBSEQ-G400RS HIGH-THROUGHPUT SEQUENCING SET (SM FCL PE150) 480G	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SUPPLIER	OVI01POH01081	244 993.65
MVK #1000016952 : DNBSEQ-G400RS HIGH-THROUGHPUT SEQUENCING SET (SM FCL PE150) 480G	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SUPPLIER	OVI01POH01080	244 993.65
FIXED ASSET: ULTRA LOW FREEZER	VWR INTERNATIONAL FZ-LLC (INCORPORA	SOLE SUPPLIER	OVI01POH01408	462 064.75

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EMERGENCY TREATMENT OF A KAAPLAAS FARM CALF BY THE UNIVERSITY HOSPITAL AS PER THE ATTACHED APPROVED SUBMISSION	UNIVERSITY OF PRETORIA	EMERGENCY	OVI01POH01379	4 782.05
QUBIT ASSAY TUBES SET OF 500/SET	LABORATORY SPECIALITIES/TA THERMO F	SOLE SUPPLIER	ISC01POH01006	5 337.36
QUBIT ASSAY TUBES SET OF 500/SET	LABORATORY SPECIALITIES/TA THERMO F	SOLE SUPPLIER	ISC01POH01007	13 390.30
ROBUSTEL MODEMS FOR WS NETWORK	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH00933	253 108.80
CELL215 4G LTE MODEM	CAMPBELL SCIENTIFIC AFRICA	SOLE SUPPLIER	ISC01POH00955	131 103.28
CELL215 4G LTE MODEM	CAMPBELL SCIENTIFIC AFRICA	SOLE SUPPLIER	ISC01POH00957	440 983.76
04RO035,RO MEMBRANE INDUSTRIAL STANDARD 35L/H	GIC SCIENTIFIC CC	SINGLE SOURCE	IIC01POH00066	25 409.24
SOIL, CARBON & NITROGEN ANALYSIS	NVIROTEK LABS	SINGLE SOURCE	API01POH01801	5 676.48
POLO VIVO _HATCH BACK_ KBL682K	VOLKSWAGEN OF SOUTH AFRICA	SINGLE SOURCE	API01POH01758	492.00
VEL-A00000274 : KJTABS VCM - 1000 PCS/BOX	ANALYTICAL SOLUTIONS	EMERGENCY	API01POH02036	12 900.00
LAB LABOUR	RAUSERV C.C.	SOLE SUPPLIER	OVI01POH01369	27 160.75
NEO-TEST-#PROFORMA #1018	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00198	93 660.00
BGP - MQ TESTS (CERTIFIED WAGYU BEEF)	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00236	161 280.00
1000006986 : MGIEASY UNIVERSAL DNA LIBRARY PREP SET SET; 96 RXN	SEPARATION SCIENTIFIC SOUTH AFRICA	SOLE SUPPLIER	BIO01POH00249	53 517.53
NEOGEN TESTS - ARC SUBSIDY - SIMBRA, SASM, SASMCOMP_BDL+PV, JH PRINSLOO (295409), 2411011 - NEOGEN ORDER 1076967 (NEOGEN INV 388228)	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00248	4 650.00
ILLUMINA - MISEQ® REAGENT KIT V3 (600 CYCLE). INCLUDES: PAIRED-END REAGENT PLATE (600- CYCLES), MISEQ FLOW CELL, AND WASH BUFFER.	PROMOLAB (PTY) LTD T/A SEPARAT	SOLE SUPPLIER	BIO01POH00250	200 181.85
BELT TIMING 2.5 PITCH 6 WIDE 880LG	CHEMETRIX EXPORT	SOLE SUPPLIER	ISC01POH00748	10 452.53
TRAVEL	CHEMETRIX EXPORT	SOLE SUPPLIER	ISC01POH00749	7 478.60

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
PICES SUMMER 2025 - FREE STATE& NORTHWEST PROVINCE POINT FRAME DESIGN, SOFTWARE DESIGN, FIELDWORK PHASE 3	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00835	1 078 580.93
PICES SUMMER 2025-TELEPHONE SURVEYING, KZN& LIMPOPO PROVINCE FIELDWORK PHASE 1	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00840	1 276 859.99
PICES SUMMER 2025 - TEL SURVEYING, FREE STATE& KZN PROVINCE FIELDWORK PHASE 2	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00836	465 150.37
PICES SUMMER 2025 - NW PROVINCE FIELDWORK PHASE 2	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00837	454 212.79
PICES SUMMER 2025 - NW PROVINCE PHASE 3	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00838	194 662.62
PICES SUMMER 2025 - FREE STATE PROVINCE FIELDWOR	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH00839	355 028.13
12VDC 7AH SEALED RECHARGEABLE BATTERY	CAMPBELL SCIENTIFIC AFRICA	SOLE SUPPLIER	ISC01POH00841	202 986.20
BSF NEONATES (30+) 2 DELIVERIE	NAMBU GROUP	SOLE SUPPLIER	AEC01POH00244	6 340.00
HPC & NETWORK	HEWLETT-PACKARD SOUTH AFRICA (PTY)	SOLE SUPPLIER	BIO01POH00218	58 613 749.00
BTP LIMS	LABWARE AFRICA	SOLE SUPPLIER	BIO01POH00217	3 291 734.00
GAS CHROMATOGRAPH GC-2030 ATF	SHIMADZU SOUTH AFRICA	SOLE SUPPLIER	ISC01POH00964	975 768.35
PICES SUMMER 2025- TEL SURVEYING, FS, KZN, MPU, LIMPOPO, GAU& NW STATISTICAL ANALYSIS AND REPORTING	SPATIAL INTELLIGENCE (PTY) LTD T/A	SINGLE SOURCE	ISC01POH01008	255 765.99
MERCURY EMERGENCY CLEANUP	DRIZIT ENVIRONMENTAL	EMERGENCY	PHP01POH01055	14 745.70
FVJ 46 SAMPLES WINE AUTHENTICA	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00814	147 660.00
INSTALLATION AND SUPPORT P/HOU	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH00825	355.00
ANNUAL SIM FEES MACADAMIA TRIA	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH00826	13 700.00
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00840	19 989.90
EF # 204243, QUANTITECT SYBR GREEN RT-PCR KIT (200)	QIAGEN SA	SOLE SUPPLIER	OVI01POH01068	18 260.00
SERVICE OF DUAL OXYCARB ANALYZ	GAS AT SITE (PTY)LTD	SOLE SUPPLIER	INF01POH00847	9 933.12

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
PRAS1030 MAXWELL16 TISSUE DNA PURIFICATION KIT,48	ANATECH INSTRUMENTS	SOLE SUPPLIER	OVI01POH01077	37 360.64
GLS GC5587-1KG D-MANNITOL 98.	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	INF01POH00851	16 670.94
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00852	17 359.65
UNTARGETED PROFILING OF 9 PHEN	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00873	15 853.41
REPAIR PIPE LINE AT DROSTERSNE	AGRICO	EMERGENCY	INF01POH00879	11 032.56
EMERGENCY PIPE REPAIRS AT DROS	AGRICO	EMERGENCY	INF01POH00876	21 905.70
STQ5807 RETREIVE SUCTION PIPE	AGRICO	SINGLE SOURCE	INF01POH00877	12 000.00
CALL OUT CHARGE	SITUC PROJECTS	SINGLE SOURCE	OVI01POH01122	3 625.00
STQ5818-FIRE ALARM REAPIRS-STE	STELLFIRE FIRE SERVICES	SINGLE SOURCE	INF01POH00897	9 064.60
POST PCR CLEAN-UP	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00902	3 925.00
CALL OUT/COLLECTION/ DELIVERY -	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	INF01POH00905	2 000.00
EMERGENCY REPAIRS TO DELTA PUM	DDD ELECTRICAL	EMERGENCY	INF01POH00904	32 432.00
MATLAB (INDIVIDUAL) SOFTWARE MAINTENANCE SERVICE	OPTI-NUM SOLUTIONS (PTY) LTD	SOLE SUPPLIER	ISC01POH00930	159 383.79
LCMS UNTARGETED PROFILING OF 3	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00910	28 016.60
CATLOG2 GPS TRACKERS - GPS CATLOG2 IN PVC PIPE ENCLOSURE, WITH RECHARGEABLE LITHIUM BATTERY (9000MAH)	PERTHOLD ENGINEERING LLC	SOLE SUPPLIER	API01POH01984	38 186.02
LR - REPAIR TO FREEZER AMENDMENT TO POH 0057	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	OVI01POH01191	13 500.00
STQ 5813- FAULTY ALARM REPAIRS	THURA SOLUTIONS (PTY) LTD	SINGLE SOURCE	INF01POH00954	10 120.00
LC FS DNA MASTER PLUS HY.PB, 480 REACT.	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SUPPLIER	OVI01POH01038	469 910.85
DR K ATTENDING COMBINED CONGRESS	SA PLANT & SOILS SCIENTIFIC COMMITT	SINGLE SOURCE	GCI01POH00847	5 850.00
REPAIRS OF AUTOCLAVE	RAUSERV C.C.	EMERGENCY	OVI01POH01051	49 449.25
4 OLIGONUCLEOTIDES, 1.0 UMOLE SCALE, PER MER	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH01054	18 116.34

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
N9306052 PTFE/SIL SCREW TOP W/SLIT VIAL, PKG.100	PERKINELMER SOUTH AFRICA (PTY) LTD	SOLE SUPPLIER	OVI01POH01052	36 350.00
G6148-50L GLASGOW MINIMUM ESSENTIAL MEDIUM, WITH L-GLUTAMINE, EXP FEB 2027	MERCK LIFE SCIENCE	SINGLE SOURCE	OVI01POH01057	1 547 435.14
PURELINK GENOMIC DNA KIT (250) 250 RXN (K182002)	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SUPPLIER	OVI01POH01059	70 323.61
REPAIRING OF SENDON UPSE AS PER QUOTE 16 JAN 2025	NO-BREAK POWER SERVICES CC	SINGLE SOURCE	GCI01POH00861	6 363.39
IDEXX PARATUBERCULOSIS SCREEN 5/STRIP	IDEXX LABORATORIES (PTY) LTD	SOLE SUPPLIER	OVI01POH01067	77 715.00
PK #WHAWB120305, QIACARD™ NON-INDICATING FTA™ CARDS, CLASSIC, 4 SAMPLE AREAS PER CARD, PKG OF 25 CARDS	MERCK LIFE SCIENCE	SOLE SUPPLIER	OVI01POH01062	59 084.00
(520206) PW SUGAR MALTOSE 3ML IN TUBES	LABORATORY SPECIALITIES/TA THERMO F	SINGLE SOURCE	OVI01POH01069	10 507.78
228-52711-93-PLUNGER SEAL, BACKUP RING UFP	SHIMADZU SOUTH AFRICA	SOLE SUPPLIER	OVI01POH01076	145 286.72
HIGH-THROUGHPUT AUTOMATED SAMPLE PREP SYSTEM INCLUDING DELIVERY, SHIPPING & INSURANCE, SERVICE LEVEL AGREEMENT - 1YR COMPREHENSIVE	SEPARATION SCIENTIFIC SOUTH AFRICA	SINGLE SOURCE	BIO01POH00173	1 990 832.98
INSTALLATION AND SUPPORT P/HOU	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH00872	887.50
BUDGETS - MAINTENANCE, SERVICING AND CALIBRATION OF 4 SINGLE CHANNEL PIPETTES REFER TO OVI01POH00763	LASEC SA (PTY)LTD	SOLE SUPPLIER	OVI01POH01112	2 960.00
1160/200 BGP2 NFI TEST SUBSIDY - GENTEC SOL - 11 SIMBRA ANIMALS - START OF ADAPTATION 25/09/2024; EXPECTED START OF TEST 17/10/24	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00183	26 400.00
1160/200 BGP2 NFI TEST SUBSIDY - BRAHMAN GENOOTS KAP (BUFLAND AGRIC EDMS BPK) - START OF ADAPTATION 24/07/2024 - EXPECTED START OF TEST 14/08/2024	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00184	14 400.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
1160/200 BGP2 NFI TEST SUBSIDY - INTAKE ON 24/09/2024 START OF ADAPTION PERIOD 15/10/2024	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00185	134 400.00
160/200 BGP2 NFI TEST SUBSIDY - SIMMENTALER BULLS - INTAKE ON 24/09/2024 AND START OF ADAPTION PERIOD 15/10/20254 - GENTEC SOL	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00186	43 200.00
BGP - MQ TESTS - THE BRAHMAN SOCIETY OF SA - MQ LAB TEST AT UNIV OF UFS	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00187	31 500.00
EF EGM-2 BULLETKIT (CC-3156 & CC-4176)	WHITEHEAD SCIENTIFIC	SOLE SUPPLIER	OVI01POH01129	38 635.30
CANOPY: KZR 360 NW	EASTVAAL MOTORS	SINGLE SOURCE	GCI01POH00970	60 755.86
INVOICE PAYMENT PROCESSING AS PER THE ATTACHED SUBMISSION TO UP ACADEMIC HOSPITAL.	UNIVERSITY OF PRETORIA	EMERGENCY	OVI01POH01142	6 121.99
YAGI ANTENNA	DFM TECHNOLOGIES PTY LTD	SINGLE SOURCE	GCI01POH00993	13 174.00
MAXWELL 16 EXTRACTION KIT	ANATECH INSTRUMENTS	SOLE SUPPLIER	OVI01POH01171	109 670.40
CALL-OUT & REPAIR GENLUS XE QSD SN 722020044	PEAK SCIENTIFIC AFRICA (PTY) LTD	SINGLE SOURCE	OVI01POH01182	6 355.80
BATTERY, 12V 7AMP HOUR	LABOTEC PTY LTD	SINGLE SOURCE	OVI01POH01180	11 041.50
NEO-TEST#1019 PROFORMA #1019	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00197	107 940.00
UNISTEL DNA TEST SIMMENTALER SOCIETY	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00194	26 460.00
1160/200 BGP2 NFI TEST SUBSIDY - ZIMEYER TEST STATION - START OF ADAPTATION 17/12/2024 - EXPECTED START OF TESTS 07/01/2025	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00195	62 400.00
NEO-TEST - SALL_SALLSTD_BDL, LEADWOOD LIMOUSIN (8176936), 2411001 (NEOGEN ORDER 1077050)	LRF LIVESTOCK SERVICES	SINGLE SOURCE	BIO01POH00196	44 940.00
KAPA HIFI HS RM (6.25ML)	ROCHE DIAGNOSTICS (PTY) LTD	SOLE SUPPLIER	BIO01POH00199	4 299.44
BUDGETS - POSTAGE AND COURIER	FEDEX EXPRESS SUPASWIFT (PTY) LTD	SINGLE SOURCE	OVI01POH01225	49 622.11
JGKPT06 BRUCELLA ABORTUS PT SCHEME - CULTURE & PCR	JGK LAB AFRIQA (PTY) LTD	SINGLE SOURCE	OVI01POH01309	41 312.12

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FULL-SERVICE SEQUENCING REACTIONS, NO REPEATS	INQABA BIOTECHNICAL INDUSTRIES	SINGLE SOURCE	OVI01POH01315	49 477.40
SPV/01-SPF EGGS(150 PER WEEK)	AVI-FARMS	SOLE SUPPLIER	OVI01POH01326	389 250.00
JGKPT37 BOVINE GENITAL CAMPYLOBACTERIOSIS – SHEATH WASH 4	JGK LAB AFRIQA (PTY) LTD	SINGLE SOURCE	OVI01POH01358	16 795.80
INV 56735	DAIRY CARE	SINGLE SOURCE	API01POH02099	4 547.70
JC 3A DEHIDER	JARVIS PRODUCTS CORPORATION RSA (PT	SOLE SUPPLIER	API01POH02201	82 000.00
SERVICE AND REPAIRS ON HOT WAT	CYCLOTHERM BOILERS	SINGLE SOURCE	API01POH02207	84 121.11
TOTAL LABOUR 8 HRS	IAN MC CORMACK	SOLE SUPPLIER	API01POH02223	13 156.16
REMOVE, DISPOSE AND REPLACE 15	M CIVILS (PTY) LTD	EMERGENCY	API01POH02231	40 000.00
DAIRY SCIENCE CALL OUT	WINTERS BUSINESS ENTERPRISE	SINGLE SOURCE	API01POH02271	7 000.00
FAULTY STEAM BOILER	CYCLOTHERM BOILERS	EMERGENCY	API01POH02284	22 403.25
SUPADIP 5L	ANB VET	EMERGENCY	API01POH02340	10 749.80
REMOVE, REPLACE 22 X DAMAGED GLAZING, WELDING OF 2 X SECURITY GATES AND 8 X WINDOW BUTLERS	MSQUARED CIVILS	EMERGENCY	API01POH02354	45 000.00
REMOVE, DISPOSE AND REPLACE 15M OF DAMAGED CONCRETE PALISADE FENCE	MSQUARED CIVILS	EMERGENCY	API01POH02355	40 000.00
REMOVE, DISPOSE AND REPLACE 12M OF DAMAGED CONCRETE PALISADE FENCE AND RE-ALIGNMENT OF 3M	MSQUARED CIVILS	EMERGENCY	API01POH02356	37 600.00
ATTEND TO FAULTY STEAM COOKING POT	INFINITE OPPORTUNITY CONSULTING	SINGLE SOURCE	API01POH02283	48 625.00
BPC® GO	JEZREEL EDUSCIENCE	SOLE SUPPLIER	API01POH02292	383 157.06
ZOLVIX ORAL SOL 2.5L S/O	ANB VET	EMERGENCY	API01POH02369	15 663.60
18555 VECOXAN 2.5 LT	INGWE LIFESCIENCE	EMERGENCY	API01POH02382	9 789.00
ARC/02/2025	M CIVILS (PTY) LTD	EMERGENCY	API01POH02277	45 000.00
APPENDIX A: QUOTATION BREAKDOWN_	M CIVILS (PTY) LTD	EMERGENCY	API01POH02295	37 600.00
EMS SERVICE GAUTENG DEPARTMENT	GAUTENG PROVINCIAL GOVERNMENT GPG H	SINGLE SOURCE	API01POH02260	15 495.00
SKGPQ-25-005_04/02/2025	SKYE ELEVATORS	SINGLE SOURCE	API01POH02278	27 880.00
FAULTY CHILLER	BASE ENGINEERING AND PROJECTS	SINGLE SOURCE	API01POH02326	18 600.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
DATA NETWORK CABLING REQUIREME	INTERCONNECT SYSTEMS (PTY) LTD	SINGLE SOURCE	API01POH02198	6 230.80
PRM7422 GOTAQ G2 HOT START GRE	ANATECH INSTRUMENTS	SOLE SUPPLIER	ITS01POH01396	13 877.04
STANDING ORDER-SEQUENCING	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	ITS01POH01394	13 043.48
0.1ML STRIP TUBES AND CAPS	QIAGEN SA	SOLE SUPPLIER	ITS01POH01415	15 560.00
OLYMPUS SZX16 STEREO MICROSCOP	WIRSAM SCIENTIFIC AND PRECISION EQU	SOLE SUPPLIER	ITS01POH01469	243 731.00
COURIER TO AMSTERDAM	DANGEROUS GOODS INTERNATIONAL (SA)	SINGLE SOURCE	PHP01POH01276	21 634.93
APHIDSOLUTIONS Q4 MORPHOLOGICAL IDENTIFICATION AND SORTING	APHID SOLUTIONS	SINGLE SOURCE	PHP01POH01254	100 000.00
SUPER SOIL FLORA RSA	FLORA RSA	SINGLE SOURCE	PHP01POH01315	7 417.39
APHID COLLECTION AND MORPHOLOGICAL ID	APHID SOLUTIONS	SINGLE SOURCE	PHP01POH00976	100 000.00
EMERGENCY WORK	DDD ELECTRICAL	EMERGENCY	PHP01POH01148	39 300.00
QIAGEN TISSUELYSER ADAPTER SET 2X24	THE SCIENTIFIC GROUP (PTY) LTD	SOLE SUPPLIER	PHP01POH01353	52 357.13
BENTOLAB PRO	WHITEHEAD SCIENTIFIC	SOLE SUPPLIER	PHP01POH01354	52 193.15
EMERGENCY REPAIR OF GLASSHOUSE 1	P V COOLING	EMERGENCY	PHP01POH01332	19 500.00
LABOUR & ADMIN	MASICOCE RECYCLING AND CLEANING SER	SINGLE SOURCE	INF01POH01090	13 100.00
STQ5803 REPAIR LANDINI TRACTOR	BEVERATECH	SINGLE SOURCE	INF01POH01007	101 793.35
REPAIR OVERHEAD POWER LINES AT	JA IMMELMAN ELEKTRIES (PTY)LTD	SINGLE SOURCE	INF01POH01044	38 093.00
STQ5808 REPAIR GEARBOX NOBILI	EIKESTAD AGRI (PTY) LTD	SINGLE SOURCE	INF01POH01059	59 843.80
SKIRT BORD REPLACEMENT-MAR 20	NDEVU PROTECTION AND CLEANING SERVI	SINGLE SOURCE	INF01POH01134	8 869.57
POST PCR CLEAN-UP BEAD BASED	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00964	20 850.00
POST PCR CLEAN-UP BEAD BASED	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00965	6 392.00
DNA SEQUENCING REACTIONS	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH00965	14 520.00
ANNUAL SERVICE OF HPLC (QUOTE	CHEMETRIX EXPORT	SOLE SUPPLIER	INF01POH00967	57 713.15
10629186 PRIMER 25 NMOL TUBE 2	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SUPPLIER	INF01POH00987	126.70

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DISK PRESS/SCREW CLAM (AS PER	LEADING EDGE 70	SINGLE SOURCE	INF01POH00988	15 990.00
FRAGMENT ANALYSIS RUN	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	INF01POH01020	7 171.00
REPAIR BURST PIPE LINE AT DROS	AGRICO	SINGLE SOURCE	INF01POH01023	15 694.30
REPAIR FRONT AXEL OF JD1630 TR	GRABOUW AUTO ELECTRICAL WORKS	SINGLE SOURCE	INF01POH01024	9 060.00
EM0841 REPAIR PIPE LINE AND VS	AGRICO	EMERGENCY	INF01POH01025	22 860.42
80CM PROPE SHORT RANGE FOR NIE	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH01042	49 550.00
REPAIR AMMONIA COMPRESSOR 1	A.R.E (PTY) LTD	EMERGENCY	INF01POH01053	15 684.63
PROBE BATTERY SC (INCL BATTERY	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH01061	1 915.00
PROBE BATTERY SC (INCL BATTERY	DFM TECHNOLOGIES PTY LTD	SOLE SUPPLIER	INF01POH01062	7 845.00
INSTALLATION OF NEW PIPING &AM	DDD ELECTRICAL	SINGLE SOURCE	INF01POH01054	11 950.00
STQ5825-OVERHEAD LINDE POLE RE	DDD ELECTRICAL	SINGLE SOURCE	INF01POH01060	42 960.00
STQ5821- ACCESS CONTROL REPAIRS POST HARVEST- FEB 2025	DDD ELECTRICAL	SINGLE SOURCE	INF01POH01091	6 468.00
BASIC WATER USAGE RIGHTS FOR 2	BERGRIVIER BESPROEIINGSRAAD	SINGLE SOURCE	INF01POH01120	61 317.49
EMERGENCY REPAIRS OF OVERHEAD	DDD ELECTRICAL	EMERGENCY	INF01POH01141	237 830.00
EMERGENCY REPAIRS RENTAL OF DI	MORESON GRONDVERSKUIWERS BK	EMERGENCY	INF01POH01146	34 160.00
CLASSIC HARVESTER NR: 1540-2006-1670 1540-41	VKB LANDBOU PTY LTD	SINGLE SOURCE	SGI01POH00774	107 941.56
PRE-FILTER 870 X 500MM	ESCO TECHNOLOGIES	SINGLE SOURCE	VIM01POH01633	56 817.54
QUALITY ANALYSIS FOR COTTON SA	COTTON SA NPC	SOLE SUPPLIER	VIM01POH01939	1 580.00
AUTOCLOVE CALIBRATION	UNITED SCIENTIFIC PTY LTD	SINGLE SOURCE	VIM01POH01928	31 297.70
PIPETMAN M MULTICHANNEL	LASEC SA (PTY)LTD	SOLE SUPPLIER	VIM01POH02078	39 115.46
ANALYTICAL SERVICES AFRICAN GI	UNIVERSITY OF STELLENBOSCH	SINGLE SOURCE	VIM01POH01843	63 116.38
REPAIR OF BOOM SPRAYERS X 1	HEADS TRACTORS	SINGLE SOURCE	VIM01POH01931	31 574.40
SVM PUMP	DIKIZA INVESTMENTS	SINGLE SOURCE	VIM01POH01966	144 333.24
P - EXPRESS WORLDWIDE 2.5KG ES	DHL EXPRESS	SINGLE SOURCE	VIM01POH01872	4 883.73

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
REPAIR ACCESS CONTROL SYSTEM-V	PREDUSE PROJECTS	SINGLE SOURCE	VIM01POH01685	58 981.00
PURITE WATER SYSTEM TAP REPAIR	LASEC SA (PTY)LTD	SOLE SUPPLIER	VIM01POH01292	2 565.00
COTTON FIBRE QUALITY ANALYSIS	COTTON SA NPC	SOLE SUPPLIER	VIM01POH01302	840.00
SERVICING OF MICROWAVE DIGESTI	M A D TECHNOLOGY (PTY) LTD	SOLE SUPPLIER	VIM01POH01299	5 700.00
SERVICING OF NITROGEN GENERATO	LABORATORY GAS AFRICA	SINGLE SOURCE	VIM01POH01300	25 150.00
25 ML PACE 2.0 GENOTYPING MAS	3CR BIOSCIENCE LIMITED	SOLE SUPPLIER	VIM01POH01301	56 511.57
LANDINI	KGABOTSE FIELD REPAIRS CC	SINGLE SOURCE	VIM01POH01310	565 762.35
SERVICE AND REPAIR TO EAOM CUBE 340	KGABOTSE FIELD REPAIRS CC	SINGLE SOURCE	VIM01POH01548	8 641.00
RO MEMBRANE WITH HOUSING 1 PAC	MICROSEP	SINGLE SOURCE	VIM01POH01611	15 484.00
TVLN - TRAVEL	MICROSEP	SINGLE SOURCE	VIM01POH01611	2 220.00
LABN - LABOUR	MICROSEP	SINGLE SOURCE	VIM01POH01611	2 300.00
SEQUENCING SERVICE-ANALYTICAL	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	VIM01POH01857	86 956.52
MAINTENANCE OF SCOTSMAN ICE M	SCOTSMAN ICE SYSTEMS SA (PTY) LTD	SOLE SUPPLIER	VIM01POH01862	1 450.00
SANGER SEQUENCING - ELSIE STO	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	VIM01POH01856	86 956.52
SANGER SEQUENCING ELSIE STO	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	VIM01POH01861	34 782.61
SANGER SEQUENCING ELSIE STO	INQABA BIOTECHNICAL INDUSTRIES	SOLE SUPPLIER	VIM01POH01864	40 000.00
ZL6 CELLULAR DATA LOGGER FOR USE WORLDWIDE ON 4G/3G/2G NETWORKS USING H-1 SIM	CAMPBELL SCIENTIFIC AFRICA	SOLE SUPPLIER	ISC01POH01068	45 136.33
CHNS ANALYSER CONSUMABLES (SUBMISSION ATTACHED)	ANATECH INSTRUMENTS	SOLE SUPPLIER	ISC01POH01134	29 848.90
ICP-OES INSTRUMENT SPARES (SUBMISSION ATTACHED)	SHIMADZU SOUTH AFRICA	SOLE SUPPLIER	ISC01POH01135	35 532.70
SERVICE OF CHNS ANALYSER	ANATECH INSTRUMENTS	SOLE SUPPLIER	ISC01POH01141	1.00
PROVISION OF NEW PH ELECTRODE	CHEMETRIX EXPORT	SOLE SUPPLIER	ISC01POH01142	3 911.00
HEATING BLOCK REPAIRS (SUBMISSION ATTACHED)	ANALYTICAL SOLUTIONS	SOLE SUPPLIER	ISC01POH01145	5 214.10
SERVICE OF FUME HOODS AND EXTRACTION SYSTEMS	VIVID AIR	SOLE SUPPLIER	ISC01POH01149	57 000.00

PROJECT DESCRIPTION	NAME OF SUPPLIER	TYPE OF PROCUREMENT BY OTHER MEANS	CONTRACT NUMBER	VALUE OF CONTRACT R'000
AUTOSAMPLER REPAIRS BY SHIMADZU (SUBMISSION ATTACHED)	SHIMADZU SOUTH AFRICA	SOLE SUPPLIER	ISC01POH01150	6 057.14
CR350-CELL215	CAMPBELL SCIENTIFIC AFRICA	SINGLE SOURCE	ISC01POH01069	2 946 548.50
QUBIT ASSAY TUBES OF 500/SET	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SUPPLIER	ISC01POH01022	5 337.36
QUBIT ASSAY TUBES OF 500/SET	LTC TECH SOUTH AFRICA (LIFE TECHNOL	SOLE SUPPLIER	ISC01POH01024	13 390.30
PHOTOMODELER PREMIUM ANNUAL MAINTENANCE S/N P813-06516 & P813-06723	GRAHAM GRIFFITHS SESSIONS	SOLE SUPPLIER	ISC01POH01035	15 300.00
DNEASY POWERSOIL PRO KIT (50 PREPS)	QIAGEN SA	SOLE SUPPLIER	ISC01POH01157	41 344.80
COMPUTER SYSTEM MAIN-REPAIR NETWORK FIBRE AND 3X UTP CABLES	INTERCONNECT SYSTEMS (PTY) LTD	SINGLE SOURCE	ISC01POH01164	4 970.50
BSF NEONATES (30+) 2 DELIVERIES	NAMBU GROUP	SOLE SUPPLIER	AEC01POH00244	6 340.00
TOTAL	R164 141 694.90			

CONTRACT VARIATIONS AND EXPANSIONS

Project description	Name of supplier	Contract modification type (Expansion or Variation)	Contract number	Original contract value	Value of previous contract expansion/s or variation/s (if applicable)	Value of current contract expansion or variation
				R'000	R'000	R'000
PANEL OF ATTORNEYS FOR LEGAL SERVICES AND INTELLECTUAL PROPERTY MANAGEMENT AND COMMERCIALISATION MATTERS	Adams & Adams Kisch IP Africa Maenetja Attorneys TJ Maodi Padi Inc Phungula Attorneys SM Vakalisa Z & Z Ngogodo Inc Kisch IP Spoor & Fisher Inc Smit and van Wyk	Variation	ARC/21/11/2021	The tender value over a period of five years is over the R10 million threshold	Contract period extended	Contract period extended.
THE ERP ONSITE RESOURCE SUPPORT AND ADDITIONAL SD&A LICENSES	Lorge Consulting	Variation		R38 196 639	R3 899 222,4	R1 137 619
CENTRE OF EXCELLENCE (COE) ON CLIMATE SMART AGRICULTURE FOR LIVESTOCK AND CROPS AT ROODEPLAAT	LTM ENERGY GROUP (PTY) LTD	Variation	ARC16/11/2023	R18 872 650.42	R0.00	R1 301 077.80
ADDITIONAL NIGHT SHIFT SECURITY OFFICERS AT ARC-VIMP AND ROODEPLAAT AP	Prime African Security	Variation	ARC/02/06/2022	R108 314 636.42	0.00	784 070.28
CLEANING SERVICES TO PTA-BASED SITES	CSK Cleaning Services (PTY) Ltd	Variation	ARC/35/03/2021	R20 526 739.20	R1 931 776.35	R772 931.49
Total				R185 910 665	R5 830 998.75	R3 995 698.57



PART F: FINANCIAL INFORMATION 263

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FINANCIAL INFORMATION





FINANCIAL INFORMATION

GENERAL INFORMATION

COUNTRY OF INCORPORATION AND DOMICILE	South Africa
NATURE OF BUSINESS AND PRINCIPAL ACTIVITIES	Conduct research, develop technology and to transfer technology that promotes agriculture and industry.
REGISTERED OFFICE	1134 Park Street Hatfield 0083
BUSINESS ADDRESS	1134 Park Street Hatfield 0083
POSTAL ADDRESS	P O Box 8783 Pretoria 0001
CONTROLLING ENTITY	Department of Agriculture, Land Reform and Rural Development incorporated in South Africa
ECONOMIC ENTITY	Department of Agriculture, Land Reform and Rural Development incorporated in South Africa
AUDITORS	Auditor General of South Africa
COMPANY SECRETARY	Ms Nosipo Matanzima

Auditor's report

Agricultural Research Council

09 September 2025

Report of the auditor-general to Parliament on Agricultural Research Council

Report on the audit of the financial statements

Opinion

1. I have audited the financial statements of the Agricultural Research Council set out on pages 276 to 353, which comprise the statement of financial position as at 31 March 2025, statement of financial performance, statement of changes in net assets, the cash flow statement and statement of comparison of budget and actual amounts for the year then ended, as well as notes to the financial statements, including a summary of significant accounting policies.
2. In my opinion, the financial statements present fairly, in all material respects, the financial position of the Agricultural Research Council as at 31 March 2025, and its financial performance and cash flows for the year then ended in accordance with the Standards of Generally Recognised Accounting Practice (GRAP) and the requirements of the Public Finance Management Act 1 of 1999 (PFMA).

Basis for opinion

3. I conducted my audit in accordance with the International Standards on Auditing (ISAs). My responsibilities under those standards are further described in the responsibilities of the auditor-general for the audit of the financial statements section of my report.
4. I am independent of the public entity in accordance with the International Ethics Standards Board for Accountants' International code of ethics for professional accountants (including International Independence Standards) (IESBA code) as well as other ethical requirements that are relevant to my audit in South Africa. I have fulfilled my other ethical responsibilities in accordance with these requirements and the IESBA code.
5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Emphasis of matters

6. I draw attention to the matters below. My opinion is not modified in respect of these matters.

Restatement of corresponding figures

7. As disclosed in note 37 to the financial statements, the corresponding figures for 31 March 2024 were restated as a result of an error in the financial statements of the public entity at, and for the year ended, 31 March 2025.

Responsibilities of the council for the financial statements

8. The council is responsible for the preparation and fair presentation of the financial statements in accordance with the GRAP and the requirements of the PFMA; and for such internal control as the council determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.
9. In preparing the financial statements, the council is responsible for assessing the public entity's ability to continue as a going concern; disclosing, as applicable, matters relating to going concern; and using the going concern basis of accounting unless the appropriate governance structure either intends to liquidate the public entity or to cease operations, or has no realistic alternative but to do so.

Responsibilities of the auditor-general for the audit of the financial statements

10. My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error; and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.
11. A further description of my responsibilities for the audit of the financial statements is included in the annexure to this auditor's report. This description, which is located at page 271, forms part of our auditor's report.

Report on the annual performance report

12. In accordance with the Public Audit Act 25 of 2004 (PAA) and the general notice issued in terms thereof; I must audit and report on the usefulness and reliability of the reported performance information against predetermined objectives for the selected material performance outcomes presented in the annual performance report. The council is responsible for the preparation of the annual performance report.
13. I selected the following material performance indicators related to improved nutritional value, quality and safety of agricultural products presented in the annual performance report for the year ended 31 March 2025. I selected those indicators that measure the public entity's performance on its primary mandated functions and that are of significant national, community or public interest.
 - Broadening the food base - Number of field trials
 - Broadening the food base - Number of technical reports
 - Broadening the food base – Number of cultivar evaluations
 - Broadening the food base – Number of new products developed
 - Broadening the food base – Number of services rendered

- Post-harvest handling and agro processing - Number of services rendered
- Post-harvest handling and agro processing - Number of solutions for controlled atmosphere
- Broadening the food base - Number of cultivars registered
- Post-harvest handling and agro processing - Number of cultivars developed with improved shelf life
- Post-harvest handling and agro processing - Number of new post-harvest solutions developed

14. I evaluated the reported performance information for the selected material performance indicators against the criteria developed from the performance management and reporting framework, as defined in the general notice. When an annual performance report is prepared using these criteria, it provides useful and reliable information and insights to users on the public entity's planning and delivery on its mandate and objectives.

15. I performed procedures to test whether:

- the indicators used for planning and reporting on performance can be linked directly to the public entity's mandate and the achievement of its planned objectives.
- all the indicators relevant for measuring the public entity's performance against its primary mandated and prioritised functions and planned objectives are included.
- the indicators are well defined to ensure that they are easy to understand and can be applied consistently, as well as verifiable so that I can confirm the methods and processes to be used for measuring achievements.
- the targets can be linked directly to the achievement of the indicators and are specific, time bound and measurable to ensure that it is easy to understand what should be delivered and by when, the required level of performance as well as how performance will be evaluated.
- the indicators and targets reported on in the annual performance report are the same as those committed to in the approved initial or revised planning documents.
- the reported performance information is presented in the annual performance report in the prescribed manner.
- there is adequate supporting evidence for the achievements reported and for the reasons provided for any over- or underachievement of targets / measures taken to improve performance.

16. I performed the procedures to report material findings only; and not to express an assurance opinion or conclusion.

17. I did not identify any material findings on the reported performance information for the selected indicators.

Other matter

18. I draw attention to the matter below.

Achievement of planned targets

19. The annual performance report includes information on reported achievements against planned targets and provides explanations for over- or under- achievements.
20. The table that follows provides information on the achievement of planned targets and lists the key indicators that were not achieved as reported in the annual performance report. The reasons for any underachievement of targets are included in the annual performance report on pages 34 to 36.

Outcome 3: Improved nutritional value, quality and safety of agricultural products

<i>Targets achieved: 86 %</i> <i>Budget spent 96%</i>		
Key indicator not achieved	Planned target	Reported achievement
Number of field trials	8	6

Report on compliance with legislation

21. In accordance with the PAA and the general notice issued in terms thereof, I must audit and report on compliance with applicable legislation relating to financial matters, financial management and other related matters. The council is responsible for the public entity's compliance with legislation.
22. I performed procedures to test compliance with selected requirements in key legislation in accordance with the findings engagement methodology of the Auditor-General of South Africa (AGSA). This engagement is not an assurance engagement. Accordingly, I do not express an assurance opinion or conclusion.
23. Through an established AGSA process, I selected requirements in key legislation for compliance testing that are relevant to the financial and performance management of the public entity, clear to allow consistent measurement and evaluation, while also sufficiently detailed and readily available to report in an understandable manner. The selected legislative requirements are included in the annexure to this auditor's report.
24. The material findings on compliance with the selected legislative requirements, presented per compliance theme, are as follows:

Annual Financial Statements

25. The financial statements submitted for auditing were not prepared in accordance with the prescribed financial reporting framework, as required by section 55(1)(b) of the PFMA.

26. Material misstatements of rendering of services, government grants and subsidies, expenditure, prior year adjustments and segment reporting identified by the auditors in the submitted financial statements were corrected and the supporting records were provided, resulting in the financial statements receiving an unqualified audit opinion.

Expenditure Management

27. Effective and appropriate steps were not taken to prevent irregular expenditure as disclosed in note 42 to the annual financial statements, as required by section 51(1)(b)(ii) of the PFMA. The majority of the irregular expenditure was caused by procurement processes being initiated only after services had already been rendered by service providers.

Other information in the annual report

28. The council is responsible for the other information included in the annual report. The other information referred to does not include the financial statements, the auditor's report and those selected material indicators in the scoped-in outcome presented in the annual performance report that have been specifically reported on in this auditor's report.
29. My opinion on the financial statements and my reports on the audit of the annual performance report and compliance with legislation do not cover the other information included in the annual report and I do not express an audit opinion or any form of assurance conclusion on it.
30. My responsibility is to read this other information and, in doing so, consider whether it is materially inconsistent with the financial statements and the selected material indicators in the scoped-in outcome presented in the annual performance report or my knowledge obtained in the audit, or otherwise appears to be materially misstated.
31. I did not receive the other information prior to the date of this auditor's report. When I do receive and read this information, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance and request that the other information be corrected. If the other information is not corrected, I may have to retract this auditor's report and re-issue an amended report as appropriate. However, if it is corrected this will not be necessary.

Internal control deficiencies

32. I considered internal control relevant to my audit of the financial statements, annual performance report and compliance with applicable legislation; however, my objective was not to express any form of assurance on it.
33. The matters reported below are limited to the significant internal control deficiencies that resulted in the material findings on compliance with legislation included in this report.
34. The accounting authority did not implement adequate oversight over financial reporting, compliance with legislation and related internal controls, as misstatements were identified on the financial statement.

35. In addition, the public entity did not monitor compliance with legislation.

Auditor - General.

Pretoria

09 September 2025



AUDITOR - GENERAL
SOUTH AFRICA

Auditing to build public confidence

Annexure to the auditor's report

The annexure includes the following:

- The auditor-general's responsibility for the audit
- The selected legislative requirements for compliance testing

Auditor-general's responsibility for the audit

Professional judgement and professional scepticism

As part of an audit in accordance with the ISAs, I exercise professional judgement and maintain professional scepticism throughout my audit of the financial statements and the procedures performed on reported performance information for selected material performance indicators and on the public entity's compliance with selected requirements in key legislation.

Financial statements

In addition to my responsibility for the audit of the financial statements as described in this auditor's report, I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the public entity's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made
- conclude on the appropriateness of the use of the going concern basis of accounting in the preparation of the financial statements. I also conclude, based on the audit evidence obtained, whether a material uncertainty exists relating to events or conditions that may cast significant doubt on the ability of the public entity to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements about the material uncertainty or, if such disclosures are inadequate, to modify my opinion on the financial statements. My conclusions are based on the information available to me at the date of this auditor's report. However, future events or conditions may cause a public entity to cease operating as a going concern
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and determine whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Communication with those charged with governance

I communicate with the council regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide the council with a statement that I have complied with relevant ethical requirements regarding independence and communicate with them all relationships and other matters that may reasonably be thought to bear on my independence and, where applicable, actions taken to eliminate threats or safeguards applied.

Compliance with legislation – selected legislative requirements

The selected legislative requirements are as follows:

Legislation	Section, regulation or paragraph
Public Finance Management Act 1 of 1999	Section 51(1)(b)(i); 51(1)(b)(ii); 51(1)(e)(iii); 53(4); 54(2)(c); 54(2)(d); 55(1)(a); 55(1)(b); 55(1)(c)(i); 56; 57(b); 66(3)(c); 66(5)
Treasury Regulations, 2005	Regulation 16A3.2; 16A3.2(a); 16A6.1; 16A6.2(a); 16A6.2(b); 16A6.3(a); 16A6.3(a); 16A6.3(b); 16A6.3(c); 16A6.3(e); 16A6.4; 16A6.5; 16A6.6; 16A.7.1; 16A.7.3; 16A.7.6; 16A8.3; 16A8.4; 16A9.1(b)(ii); 16A 9.1(d); 16A9.1(e); 16A9.1(f); 16A9.2; 16A9.2(a)(ii); 30.1.1; 31.1.2(c); 30.1.3(a); 30.1.3(b); 30.1.3(d); 30.2.1; 31.2.1; 31.2.5; 31.2.7(a); 31.3.3; 32.1.1(a); 32.1.1(b); 32.1.1(c); 33.1.1; 33.1.3
Companies Act 71 of 2008	Section 45(2); 45(3)(a)(ii); 45(3)(b)(i); 45(3)(b)(ii); 45(4); 46(1)(a); 46(1)(b); 46(1)(c); 112(2)(a); 129(7)
Construction Industry Development Board Act 38 of 2000	Section 18(1)
Construction Industry Development Board Regulations, 2004	Regulation 17; 25(7A)
National Treasury Instruction No. 5 of 2020/21	Paragraph 4.8; 4.9; 5.3
Second Amendment National Treasury Instruction No. 5 of 202/21	Paragraph 1
Erratum National Treasury Instruction No. 5 of 202/21	Paragraph 2
National Treasury Instruction No. 1 of 2021/22	Paragraph 4.1
National Treasury Instruction No. 4 of 2015/16	Paragraph 3.4
National Treasury SCM Instruction No. 4A of 2016/17	Paragraph 6
National Treasury SCM Instruction No. 03 of 2021/22	Paragraph 4.1; 4.2(b); 4.3; 4.4; 4.4(a); 4.17; 7.2; 7.6

National Treasury SCM Instruction No. 11 of 2020/21	Paragraph 3.4(a); 3.4(b); 3.9
National Treasury SCM Instruction No. 2 of 2021/22	Paragraph 3.2.1; 3.2.4; 3.2.4(a); 3.3.1
National Treasury Practice Note 5 of 2009/10	Paragraph 3.3
National Treasury Practice Note 7 of 2009/10	Paragraph 4.1.2
Preferential Procurement Policy Framework Act 5 of 2000	Section 1; 2.1(a); 2.1(f)
Preferential Procurement Regulations, 2022	Regulation 4.1; 4.2; 4.3; 4.4; 5.1; 5.2; 5.3; 5.4
Preferential Procurement Regulations, 2017	Regulation 4.1; 4.2; 5.1; 5.3; 5.6; 5.7; 6.1; 6.2; 6.3; 6.6; 6.8; 7.1; 7.2; 7.3; 7.6; 7.8; 8.2; 8.5; 9.1; 10.1; 10.2; 11.1; 11.2
Prevention and Combating of Corrupt Activities Act 12 of 2004	Section 34(1)

ACCOUNTING AUTHORITY'S RESPONSIBILITIES AND APPROVAL

The accounting authority is required by the Public Finance Management Act (Act 1 of 1999), to maintain adequate accounting records and are responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is the responsibility of the council to ensure that the annual financial statements fairly present the state of affairs of the entity as at the end of the financial year and the results of its operations and cash flows for the period then ended. The external auditors are engaged to express an independent opinion on the annual financial statements and was given unrestricted access to all financial records and related data.

The annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

The annual financial statements are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The accounting authority acknowledge that they are ultimately responsible for the system of internal financial control established by the entity and place considerable importance on maintaining a strong control environment. To enable the accounting authority to meet these responsibilities, the accounting authority sets standards for internal control aimed at reducing the risk of error or deficit in a cost-effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the entity and all employees are required to maintain the highest ethical standards in ensuring the entity's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the entity is on identifying, assessing, managing and monitoring all known forms of risk across the entity. While operating risk cannot be fully eliminated, the entity endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The accounting authority are of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or deficit.

The accounting authority have reviewed the entity's cash flow forecast for the year ended to 31 March 2026 and, in the light of this review and the current financial position, they are satisfied that the entity has or has access to adequate resources to continue in operational existence for the foreseeable future.

The entity is mainly dependent on the parliamentary grant for continued funding of operations. The annual financial statements are prepared on the basis that the entity is a going concern, and that the entity has neither the intention nor the need to liquidate or curtail materially the scale of the entity.

Although the accounting authority is primarily responsible for the financial affairs of the entity, it is supported by the entity's external auditors.

The external auditors are responsible for independently reviewing and reporting on the entity's annual financial statements. The annual financial statements have been examined by the entity's external auditors and their report is presented on page 265 to 274.

The annual financial statements set out from page 276, which have been prepared on the going concern basis, were approved by the accounting authority on 31 July 2025 and were signed on its behalf by:



Ms J Isaacs
Chairperson



Dr L Magingxa
Chief Executive Officer

STATEMENT OF FINANCIAL PERFORMANCE

for the year ended 31 March 2024

Figures in Rand	Note(s)	2025	2024 Restated*
Revenue			
Revenue from exchange transactions			
Sale of goods		12 958 809	12 127 123
Rendering of services		759 343 802	539 015 683
Royalty income		42 752 374	43 985 175
Rental of facilities and equipment		36 695 374	32 534 547
Recoveries		56 079	11 409 398
Other income		14 124 396	16 409 085
Interest received - investment	3	82 362 687	91 456 414
Dividends or similar distributions received	3	26 034	102 151
Total revenue from exchange transactions		948 319 555	747 039 576
Revenue from non-exchange transactions			
Government grants & Donor funded revenue	4	1 124 745 521	1 044 752 196
Total revenue		2 073 065 076	1 791 791 772
Expenditure			
Employee related costs	5	(945 124 086)	(812 753 752)
Depreciation and amortisation	6	(75 469 048)	(82 750 860)
Finance costs	7	(20 537)	(36 002)
Lease rentals on operating lease	8	(4 781 091)	(3 331 491)
Repairs and Maintenance		(84 674 590)	(59 229 259)
Operating and administrative expenses	9	(722 486 950)	(519 030 140)
Total expenditure		(1 832 556 302)	(1 477 131 504)
Operating surplus		240 508 774	314 660 268
Loss on disposal of assets and liabilities		(50 571 054)	(15 022 020)
Loss on foreign exchange		(264 320)	(2 449 423)
Fair value adjustments	10	14 066	100 255
Actuarial gains/losses	26	(1 154 398)	630 336
(Loss) gain on biological assets and agricultural produce	11	(3 177 618)	4 746 112
Impairment loss	12	(6 264 089)	(3 731 033)
Inventories losses/write-downs		5 177 073	167 303
		(56 240 340)	(15 558 470)
Surplus for the year		184 268 434	299 101 798

STATEMENT OF FINANCIAL POSITION

as at 31 March 2025

Figures in Rand	Note(s)	2025	2024 Restated*
Assets			
Current Assets			
Inventories	13	18 433 077	20 200 185
Operating lease asset	14	594 168	356 882
Receivables from exchange transactions	15	872 521 002	171 898 307
Prepayments	16	41 545 172	19 709 965
Cash and cash equivalents	17	965 059 607	1 550 036 246
		1 898 153 026	1 762 201 585
Non-Current Assets			
Biological assets that form part of an agricultural activity	18	1 375 476	810 069
Investment property	19	5 788 189	4 834 957
Property, plant and equipment	20	2 371 995 573	2 030 105 345
Intangible assets	21	12 301 940	14 705 275
Heritage assets	22	223 167	223 167
Living resources	23	1 108 677	2 821 750
Other financial assets	24	689 920	675 855
Operating lease asset	14	3 307 707	3 725 508
Prepayments	16	981 648	5 536 135
		2 397 772 297	2 063 438 061
Total Assets		4 295 925 323	3 825 639 646
Liabilities			
Current Liabilities			
Payables from exchange transactions	25	580 601 507	604 812 877
VAT payable		65 252 709	15 496 416
		645 854 216	620 309 293
Non-Current Liabilities			
Employee benefit obligation	26	9 618 648	9 589 828
Unspent conditional grants and receipts	27	458 615 672	469 754 676
		468 234 320	479 344 504
Total Liabilities		1 114 088 536	1 099 653 797
Net Assets		3 181 836 787	2 725 985 849
Share capital / contributed capital	28	111 986 013	111 986 013
Reserves			
Revaluation reserve	29	1 233 812 973	962 230 468
Self-insurance reserve		4 015 559	4 015 559
Accumulated surplus		1 832 022 242	1 647 753 809
Total Net Assets		3 181 836 787	2 725 985 849

STATEMENT OF CHANGES IN NET ASSETS

Figures in Rand	Share capital / contributed capital	Revaluation reserve	Insurance reserve	Total reserves	Accumulated surplus / deficit	Total net assets
Balance at 01 April 2023	111 986 013	962 230 468	4 015 559	966 246 027	1 348 652 009	2 426 884 049
Changes in net assets						
Restated - Surplus for the year	-	-	-	-	299 101 800	299 101 800
Total changes	-	-	-	-	299 101 800	299 101 800
Restated* Balance at 01 April 2024	111 986 013	962 230 468	4 015 559	966 246 027	1 647 753 808	2 725 985 848
Changes in net assets						
Revaluation of Land	-	271 582 505	-	271 582 505	-	271 582 505
Net income (losses) recognised directly in net assets	-	271 582 505	-	271 582 505	-	271 582 505
Surplus for the year	-	-	-	-	184 268 434	184 268 434
Total recognised income and expenses for the year	-	271 582 505	-	271 582 505	184 268 434	455 850 939
Total changes	-	271 582 505	-	271 582 505	184 268 434	455 850 939
Balance at 31 March 2025	111 986 013	1 233 812 973	4 015 559	1 237 828 532	1 832 022 242	3 181 836 787
Note(s)	28	29				

* See Note 37

CASH FLOW STATEMENT

for the year ended 31 March 2024

Figures in Rand	Note(s)	2025	2024 Restated*
Cash flows from operating activities			
Receipts			
Sale of goods and services		159 199 078	552 842 451
Grants		1 113 606 517	1 036 135 652
Interest income		82 362 687	91 456 414
Dividends or similar distributions received		26 034	102 151
		1 355 194 316	1 680 536 668
Payments			
Employee costs		(936 098 284)	(805 410 782)
Suppliers		(809 917 820)	(393 938 919)
Finance costs		(20 537)	(36 002)
		(1 746 036 641)	(1 199 385 703)
Net cash flows from operating activities	32	(390 842 325)	481 150 965
Cash flows from investing activities			
Purchase of property, plant and equipment	20	(193 966 086)	(140 441 587)
Purchase of other intangible assets	21	(168 228)	(1 809 565)
Proceeds from sale of financial assets	21	-	6 124 860
Net cash flows from investing activities		(194 134 314)	(136 126 292)
Net increase/(decrease) in cash and cash equivalents		(584 976 639)	345 024 673
Cash and cash equivalents at the beginning of the year		1 550 036 246	1 205 011 573
Cash and cash equivalents at the end of the year	17	965 059 607	1 550 036 246

The accounting policies on pages 9 to 35 and the notes on pages 36 to 72 form an integral part of the annual financial statements.

* See Note 37

STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

BUDGET ON ACCRUAL BASIS

Figures in Rand	Approved budget	Adjustments on comparable basis	Final Budget	Actual amounts	Difference between final budget and actual	Reference
Statement of Financial Performance Revenue						
Parliamentary Grant Operational	840 325 854	-	840 325 854	840 324 984	(870)	#1
Parliamentary Grant Capex and	99 835 016	-	99 835 016	284 420 537	184 585 521	#2
Donor funded revenue	895 901 306		895 901 306	815 054 986	(80 846 320)	
External Income		-				#3
Other Income	71 762 563	-	71 762 563	133 264 569	61 502 006	#4
Total revenue	1 907 824 739	-	1 907 824 739	2 073 065 076	165 240 337	
Expenditure						
Personnel Costs	(894 097 487)	-	(894 097 487)	(945 124 086)	(51 026 599)	#5
Depreciation and amortisation	(70 772 999)	-	(70 772 999)	(75 469 048)	(4 696 049)	#6
Finance costs	-	-	-	(20 537)	(20 537)	#7
Operating and administrative	(838 834 970)	-	(838 834 970)	(868 182 971)	(29 348 001)	#8
Total expenditure	(1 803 705 456)	-	(1 803 705 456)	(1 888 796 642)	(85 091 186)	
Operating surplus	104 119 283	-	104 119 283	184 268 434	80 149 151	
Capital expenditure	(100 000 000)	-	(100 000 000)	(194 134 314)	(94 134 314)	
Deficit before taxation	4 119 283	-	4 119 283	(9 865 880)	(13 985 163)	
Net Operational Surplus/ (Deficit)	4 119 283	-	4 119 283	(9 865 880)	(13 985 163)	

#1 Rounding

#2 Actual amount includes the capex portion from the DoA SLA and FMD portion that has been received in advance that has now been recognised.

#3 Related to activities achieved from the DALRRD SLA. #4 Includes interest earned on funds received in advance.

#5 Related to additional appointments to increase capacity for DALRRD projects. #6 Additional capex acquisitions from DALRRD funding.

#7 Interest penalties on overdue accounts.

#8 Increased expenditure due to DALRRD activities.

ACCOUNTING POLICIES

1. SIGNIFICANT ACCOUNTING POLICES

The significant accounting policies applied in the preparation of these annual financial statements are set out below.

1.1 ENTITY INFORMATION

The ARC is a schedule 3(a) PFMA national public entity (enacted by the Agricultural Research Act, 1990 (Act 86 of 1990)) domiciled in the Republic of South Africa.

1.2 PRESENTATION CURRENCY

These annual financial statements are presented in South African Rand, which is the functional currency of the entity.

1.3 GOING CONCERN ASSUMPTION

These annual financial statements have been prepared based on a going concern basis, and the entity will continue to operate as a going concern for at least the next 12 months.

1.4 SIGNIFICANT JUDGEMENTS AND SOURCES OF ESTIMATION UNCERTAINTY

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements.

Other significant judgements, sources of estimation uncertainty and/or relating information, have been disclosed in the relating notes.

Significant judgements include:

IMPAIRMENT TESTING

The entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. Assets are grouped at the lowest level for which identifiable cash flows are largely independent of cash flows of other assets and liabilities. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each group of assets. Expected future cash flows used to determine the value in use of tangible assets are inherently uncertain and could materially change over time. They are significantly affected by a number of factors including supply and demand and other economic factors.

PROVISIONS

Provisions were raised and management determined an estimate based on the information available. Additional disclosure of these estimates of provision are included in the notes.

Provisions are measured at management's best estimate of the expenditure required to settle the obligation at the reporting date.

PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

Property, plant and equipment and intangible assets are depreciated over their useful lives, taking into account residual values, where appropriate. The entity's management determines useful lives, residual values and related depreciation charges for its property, plant and equipment (Including biological assets held for research) and intangible assets with reference to the estimated periods that the entity intends to derive future economic benefits from the use of these assets. The useful lives of the assets and residual values are assessed annually and may vary depending on a number of factors. In re-assessing asset useful lives, factors such as technological innovation and maintenance programmes are taken into account. Residual value assessments consider issues such as future market conditions, the remaining life of the asset and projected disposal values.

The entity's post-retirement benefits relate to the post-retirement medical aid benefits. The present value of the post-retirement obligation depends on a number of factors (i.e. discount rates, healthcare cost inflation, average retirement age) that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost (income) include the discount rate. Any changes in these assumptions will impact on the carrying amount of post-retirement obligations.

The entity determines the appropriate discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the pension obligations. In determining the appropriate discount rate, the entity considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability.

Other key assumptions for post-retirement medical aid obligations are based on current market conditions. Additional information is disclosed in Note 26.

BIOLOGICAL ASSETS

In measuring fair value of biological assets, management estimates and judgements are required for determination of fair value. The determination of the fair value of a biological asset or agricultural produce may be facilitated by grouping biological assets or agricultural produce according to the significant attributes of the asset; e.g. sorted by age or quality. The Company selects the attributes corresponding to the attributes used in the market as a basis for pricing.

If an active market exists for a biological asset or agricultural produce, the quoted market price is appropriate for determining the fair value.

If there is no active market for a biological asset or agricultural produce one of the following valuations is applied:

- The most recent market transaction price, provided that the market has not significantly changed since that transaction;
- The market prices for similar assets with adjustments to reflect differences; and
- Sector benchmarks such as the value of an orchard expressed per export tray, bushel, or hectare and value of cattle expressed per kilogram of meat.

STAGE OF COMPLETION

In determining the stage of completion of a research project, management estimates the stage of completion based on work completed for as assessed by project leaders. This is then compared to costs incurred to date with appropriate revenue recognition processed in the statement of financial performance. Consideration is given to any arrangements with funders to offset any costs incurred in excess of budgeted amounts.

The entity generates royalty revenue from Intellectual Property (IP) including Plant Breeders Rights, Patents and a Design arising from research conducted (either by entity's employees or funded by the entity or research collaboration or industry funding). These are internally generated intangible assets, however, they arise as a result of research activities and not development activities as envisioned by paragraph 52 of GRAP 31.

The entity protects the IP in terms of the Act by registering the results of the research (either an improved variant or cultivars or other products) with the relevant authorities. Entity protects the IP in terms of the Intellectual Property Rights from Publicly Financed Research and Development Act of 2008. It is a requirement to protect IP as a publicly funded institution.

1.4 SIGNIFICANT JUDGEMENTS AND SOURCES OF ESTIMATION UNCERTAINTY (CONTINUED) CAPITALISATION OF INTELLECTUAL PROPERTY

The entity does not intend to sell the IP nor to use the IP for its own use but rather holds the IP for use by third parties and earns royalties from the IP. The object from the results of the research conducted by ARC (either through employees or funded research by entity) is generally to improve farming quality, either through more cost-effective techniques, better yield and/or better quality of product for all levels of farming including Small and Medium Enterprises.

Impairment of receivables

In determining whether an impairment loss should be recognised, judgement is made as to whether there were observable data indicating a measurable decrease in the estimated future cash flows from receivables. Where there is objective evidence of impairment loss, the present value of the future cash flows discounted at the original effective interest rate is determined and compared to the carrying value of receivables.

Accounting for adjustments to revenue

Determining whether an adjustment to revenue charged in terms of legislation or similar means is a correction of an error or a change in an accounting estimate requires the application of judgement by management. When adjustments to revenue already recognised arise from new information that becomes known to the entity, the following considerations are applied to determine whether the adjustment to revenue already recognised is a correction of an error or a change in an accounting estimate:

- If information becomes known to the entity, and the entity could reasonably have been expected to know of the information and/or the information used was incorrect, the adjustment to revenue is likely to be a correction of an error.
- If information becomes known to the entity, but the entity could not reasonably have been expected to know of this information when the revenue was charged, the adjustment to revenue is likely to be a change in an accounting estimate.

Heritage assets

Management has used judgement in applying the initial recognition criteria of GRAP 103 to land obtained from non-exchange transactions and other heritage assets.

Impairment of cash generating assets

Judgements made by management in applying the criteria to designate assets as cash-generating assets or non-cash generating assets, are as follows:

The designation of assets as cash and non-cash generating assets is based on how the assets are used, as required by the standards of impairment. For the majority of the assets held by the entity, the objective of using these assets is for service delivery purposes, rather than for a commercial return.

Definition of an asset not being met for living resources or a group of living resources

Key judgements made and assumptions applied to conclude that the definition of an asset is not met are disclosed in the notes.

1.5 BIOLOGICAL ASSETS THAT FORM PART OF AN AGRICULTURAL ACTIVITY

The entity recognises biological assets that form part of an agricultural activity or agricultural produce when, and only when:

- the entity controls the asset as a result of past events;
- it is probable that future economic benefits or service potential associated with the asset will flow to the entity; and
- the fair value or cost of the asset can be measured reliably.

Biological assets that form part of an agricultural activity are measured at their fair value less costs to sell.

The fair value of livestock is determined based on market prices of livestock of similar age, breed, and genetic merit. The fair value of milk is determined based on market prices in the local area.

The fair value of the vine / pine plantations is based on the combined fair value of the land and the vines / pine trees. The fair value of the raw land and land improvements is then deducted from the combined fair value to determine the fair value of the vines / pine trees.

Agricultural produce is the harvested product of the company's biological assets and is measured at its fair value less estimated costs to sell at the point of harvest. Such measurement is the cost at that date when transferring the harvested produce to inventory. The presentation of biological assets as current or non-current assets depends on the nature of the biological assets. Biological assets that are expected to be consumed in the next 12 months are disclosed under current assets.

A gain or loss arising on initial recognition of biological assets that form part of an agricultural activity or agricultural produce at fair value less costs to sell and from a change in fair value less costs to sell of biological assets that form part of an agricultural activity is included in surplus or deficit for the period in which it arises. Costs to sell include all costs that would be necessary to sell the assets, including transportation costs and incremental selling costs, auctioneers' fees and commission paid to dealers and brokers. All costs incurred in maintaining the biologicals assets are included in surplus or deficit for the period in which they arise.

Where biological assets are acquired at no cost or for a nominal cost, the cost is determined to be its fair value less costs to sell as at the date of acquisition. Where market determined prices or values are not available, the present value of the expected net cash inflows from the asset, discounted at the current market-determined pre-tax rate where applicable is used to determine fair value.

1.6 INVESTMENT PROPERTY

Investment property is property (land or a building - or part of a building - or both) held to earn rentals or for capital appreciation or both, rather than for:

- use in the production or supply of goods or services or for
- administrative purposes, or
- sale in the ordinary course of operations.

Owner-occupied property is property held for use in the production or supply of goods or services or for administrative purposes.

Investment property is recognised as an asset when it is probable that the future economic benefits or service potential that are associated with the investment property will flow to the entity, and the cost or fair value of the investment property can be measured reliably.

Investment property is initially recognised at cost. Transaction costs are included in the initial measurement.

Where investment property is acquired through a non-exchange transaction, its cost is its fair value as at the date of acquisition.

Costs include costs incurred initially and costs incurred subsequently to add to, or to replace a part of, or service a property. If a replacement part is recognised in the carrying amount of the investment property, the carrying amount of the replaced part is derecognised.

Cost model

Investment property is carried at cost less accumulated depreciation and any accumulated impairment losses.

Depreciation is provided to write down the cost, less estimated residual value by equal instalments over the useful life of the property, which is as follows:

Item	Useful life
Property - land	indefinite
Property - buildings	3 - 70 years

Investment property is derecognised on disposal or when the investment property is permanently withdrawn from use and no future economic benefits or service potential are expected from its disposal.

The entity separately disclose expenditure to repairs and maintenance investment property, in the notes to the annual financial statements (see note 19).

1.7 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are tangible non-current assets (including infrastructure assets) that are held for use in the production or supply of goods or services, rental to others, or for administrative purposes, and are expected to be used during more than one period.

The cost of an item of property, plant and equipment is recognised as an asset when:

- it is probable that future economic benefits or service potential associated with the item will flow to the entity; and
- the cost of the item can be measured reliably.

Property, plant and equipment is initially measured at cost.

The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Trade discounts and rebates are deducted in arriving at the cost.

Where an asset is acquired through a non-exchange transaction, its cost is its fair value as at date of acquisition.

Where an item of property, plant and equipment is acquired in exchange for a non-monetary asset or monetary assets, or a combination of monetary and non-monetary assets, the asset acquired is initially measured at fair value (the cost). If the acquired item's fair value was not determinable, it's deemed cost is the carrying amount of the asset(s) given up.

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Costs include costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, replace part of, or service it. If a replacement cost is recognised in the carrying amount of an item of property, plant and equipment, the carrying amount of the replaced part is derecognised.

1.7 PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

The fruit trees are bearer plants under the definition in Standard of GRAP 27 Agriculture and therefore presented and accounted for as property, plant and equipment. Costs capitalised to bearer assets (Fruit trees: i.e. banana palms, deciduous and macadamia trees) include all direct costs of land preparation and planting. Bearer plants are measured at cost less accumulated depreciation and impairment losses. Bearer plants are measured at accumulated costs until maturity, similar to the accounting for a self-constructed item of property, plant and equipment. However, the fruit growing on the plants are accounted for as biological assets until the point of harvest. All costs relating to the development of an orchard/vineyard are capitalised to the respective orchard/block of vineyard planted. The establishment costs are allocated per orchard/block of vineyard based on establishment costs allocated per hectare. Production costs and capital expenditure are capitalised to the bearer plant until the plant has reached the age of full bearing. Income that is received related to the orchard/vineyard prior to it becoming full bearing is credited to the capitalised costs. Depreciation in respect of orchards/vineyards is calculated from the date the orchard/vineyard reaches the state of full bearing and calculated by taking the cost per orchard/vineyard and dividing by the relevant remaining useful life.

Items such as spare parts, standby equipment and servicing equipment are recognised when they meet the definition of property, plant and equipment.

Property, plant and equipment, excluding land and buildings, is carried at cost less accumulated depreciation and any impairment losses..

Property, plant and equipment are carried at revalued amount, being the fair value at the date of revaluation (occurring every five years) less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

When an item of property, plant and equipment is revalued, any accumulated depreciation at the date of the revaluation is eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount of the asset.

Any increase in an asset's carrying amount, as a result of a revaluation, is credited directly to a revaluation surplus. The increase is recognised in surplus or deficit to the extent that it reverses a revaluation decrease of the same asset previously recognised in surplus or deficit.

The revaluation surplus in equity related to a specific item of property, plant and equipment is transferred directly to retained earnings when the asset is derecognised.

Property, plant and equipment are depreciated on the straight-line basis over their expected useful lives to their estimated residual value.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Land		Not depreciated
Buildings	Straight-line	3 to 70 years
Machinery and farming equipment	Straight-line	3 to 60 years
Office furniture and equipment	Straight-line	5 to 60 years
Motor vehicles and aircraft	Straight-line	1 to 60 years
Computer equipment	Straight-line	3 to 55 years
Infrastructure	Straight-line	5 to 60 years
Laboratory equipment	Straight-line	5 to 60 years
Bearer plants	Straight-line	3 to 50 years
Buffalo	Straight-line	8 to 23 years
Horse	Straight-line	10 to 30 years

The depreciable amount of an asset is allocated on a systematic basis over its useful life.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The entity assesses at each reporting date whether there is any indication that the entity expectations about the residual value and the useful life of an asset have changed since the preceding reporting date. If any such indication exists, the entity revises the expected useful life and/or residual value accordingly. The change is accounted for as a change in an accounting estimate.

The depreciation charge for each period is recognised in surplus or deficit unless it is included in the carrying amount of another asset.

Items of property, plant and equipment are derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in surplus or deficit when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

The entity separately discloses expenditure to repair and maintain property, plant and equipment in the notes to the financial statements (see note 20).

The entity discloses relevant information relating to assets under construction or development, in the notes to the financial statements (see note 20).

1.8 INTANGIBLE ASSETS

An intangible asset is an identifiable non-monetary asset without physical substance. An intangible asset is recognised when:

- it is probable that the expected future economic benefits or service potential that are attributable to the asset will flow to the entity; and
- the cost or fair value of the asset can be measured reliably.

The entity assesses the probability of expected future economic benefits or service potential using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset.

Intangible assets are measured initially at cost. Where an intangible asset is acquired through a non-exchange transaction, its initial cost at the date of acquisition is measured at its fair value as at that date.

The entity has registered a number of patents, plant breeders' rights and designs emanating from the research conducted or funded by entity in terms of Agricultural Research Act as amended in order to protect the Intellectual Property derived from the research. The entity does not capitalize the research costs incurred but expenses these costs in terms of GRAP 31: Intangible Assets, as the criteria to capitalize these assets as development costs has not been met.

Expenditure on research (or on the research phase of an internal project) is recognised as an expense when it is incurred. An intangible asset arising from development (or from the development phase of an internal project) is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale.
- there is an intention to complete and use or sell it.
- there is an ability to use or sell it.
- it will generate probable future economic benefits or service potential.
- there are available technical, financial and other resources to complete the development and to use or sell the asset.
- the expenditure attributable to the asset during its development can be measured reliably.
- Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

1.8 INTANGIBLE ASSETS (CONTINUED)

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows or service potential. Amortisation is not provided for these intangible assets, but they are tested for impairment annually and whenever there is an indication that the asset may be impaired. For all other intangible assets amortisation is provided on a straight-line basis over their useful life.

The amortisation period and the amortisation method for intangible assets are reviewed at each reporting date. Amortisation of intangible assets is included in the depreciation and amortisation line item in the statement of financial performance.

Reassessing the useful life of an intangible asset with a finite useful life after it was classified as indefinite is an indicator that the asset may be impaired. As a result, the asset is tested for impairment and the remaining carrying amount is amortised over its useful life.

Amortisation is provided to write down the intangible assets, on a straight-line basis, to their residual values as follows:

Item	Depreciation method	Average useful life
Computer software	Straight-line	3 to 20 years

The entity discloses relevant information relating to assets under construction or development, in the notes to the financial statements (see note 21).

Intangible assets are derecognised:

- on disposal; or
- when no future economic benefits or service potential are expected from its use or disposal.

The gain or loss arising from the derecognition of intangible assets is included in surplus or deficit when the asset is derecognised (unless the Standard of GRAP on leases requires otherwise on a sale and leaseback).

1.9 HERITAGE ASSETS

Heritage assets are assets that have a cultural, environmental, historical, natural, scientific, technological or artistic significance and are held indefinitely for the benefit of present and future generations.

Carrying amount is the amount at which an asset is recognised after deducting accumulated impairment losses.

Class of heritage assets means a grouping of heritage assets of a similar nature or function in an entity's operations that is shown as a single item for the purpose of disclosure in the annual financial statements.

Cost is the amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire an asset at the time of its acquisition or construction or, where applicable, the amount attributed to that asset when initially recognised in accordance with the specific requirements of other Standards of GRAP.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

An impairment loss of a non-cash-generating asset is the amount by which the carrying amount of an asset exceeds its recoverable service amount.

RECOGNITION

The entity recognises a heritage asset as an asset if it is probable that future economic benefits or service potential associated with the asset will flow to the entity, and the cost or fair value of the asset can be measured reliably.

INITIAL MEASUREMENT

Heritage assets are measured at cost.

Where a heritage asset is acquired through a non-exchange transaction, its cost is measured at its fair value as at the date of acquisition.

SUBSEQUENT MEASUREMENT

After recognition as an asset, a class of heritage assets is carried at its cost less any accumulated impairment losses.

IMPAIRMENT

The entity assesses at each reporting date whether there is an indication that it may be impaired. If any such indication exists, the entity estimates the recoverable amount or the recoverable service amount of the heritage asset.

DERECOGNITION

The entity derecognises heritage asset on disposal, or when no future economic benefits or service potential are expected from its use or disposal.

The gain or loss arising from the derecognition of a heritage asset is included in surplus or deficit when the item is derecognised (unless the Standard of GRAP on leases requires otherwise on a sale and leaseback).

1.10 FINANCIAL INSTRUMENTS

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or a residual interest of another entity.

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectibility.

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Derecognition is the removal of a previously recognised financial asset or financial liability from an entity's statement of financial position.

The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability (or group of financial assets or financial liabilities) and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, an entity shall estimate cash flows considering all contractual terms of the financial instrument (for example, prepayment, call and similar options) but shall not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate (see the Standard of GRAP on Revenue from Exchange Transactions), transaction costs, and all other premiums or discounts. There is a presumption that the cash flows and the expected life of a group of similar financial instruments can be estimated reliably. However, in those rare cases when it is not possible to reliably estimate the cash flows or the expected life of a financial instrument (or group of financial instruments), the entity shall use the contractual cash flows over the full contractual term of the financial instrument (or group of financial instruments).

1.10 FINANCIAL INSTRUMENTS (CONTINUED)

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable willing parties in an arm's length transaction.

A financial asset is:

- cash;
- a residual interest of another entity; or
- a contractual right to:
 - » receive cash or another financial asset from another entity; or
 - » exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity.

A financial liability is any liability that is a contractual obligation to:

- deliver cash or another financial asset to another entity; or
- exchange financial assets or financial liabilities under conditions that are potentially unfavourable to the entity.

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Liquidity risk is the risk encountered by an entity in the event of difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset.

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market.

Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial asset or financial liability. An incremental cost is one that would not have been incurred if the entity had not acquired, issued or disposed of the financial instrument.

Financial instruments at amortised cost are non-derivative financial assets or non-derivative financial liabilities that have fixed or determinable payments, excluding those instruments that:

- the entity designates at fair value at initial recognition; or
- are held for trading.

Financial instruments at cost are investments in residual interests that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured.

CLASSIFICATION

The entity has the following types of financial assets (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Cash and cash equivalents	Financial asset measured at amortised cost
Trade and other receivables	Financial asset measured at amortised cost
Other financial asset	Financial asset measured at fair value
Other financial asset	Financial asset measured at cost

The entity has the following types of financial liabilities (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Trade and other payables Financial liability measured at amortised cost

RECOGNITION AND MEASUREMENT INITIAL RECOGNITION

The entity recognises a financial asset or a financial liability in its statement of financial position when the entity becomes a party to the contractual provisions of the instrument. The entity recognises financial assets using trade date accounting.

INITIAL MEASUREMENT OF FINANCIAL ASSETS AND FINANCIAL LIABILITIES

The entity measures a financial asset and financial liability initially at its fair value plus transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability when the entity is a party to a contractual arrangement. Subsequent to initial recognition these instruments are measured as set out above.

RECEIVABLES FROM EXCHANGE TRANSACTIONS

Trade and other receivables, excluding, when applicable, VAT and prepayments, are measured at initial recognition at fair value, and are subsequently measured at amortised cost using effective interest rate method. Appropriate allowances for estimated irrecoverable amounts are recognised in surplus or deficit when there is objective evidence that not all amounts due will be collected according to original terms of the receivables.

Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial derecognition, and default or delinquency in payments are considered indicators that the trade receivable is impaired. The allowance recognised is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the effective interest rate computed at initial recognition.

The carrying amount of the asset is reduced through the use of an allowance account, and the amount of the credit loss is recognised in surplus or deficit. When a trade receivable is uncollectable, it is written off against the allowance account for trade receivables. Subsequent recoveries of amounts previously written off are credited in surplus or deficit.

PAYABLES FROM EXCHANGE TRANSACTION

Trade and other payables, excluding VAT and amounts received in advance, are initially measured at fair value and subsequently measured at amortised cost, using effective interest rate method.

1.10 FINANCIAL INSTRUMENTS (CONTINUED)

CASH AND CASH EQUIVALENTS

Cash and cash equivalents are initially measured at fair value plus transaction costs that are directly attributable to the acquisition, which is deemed to be their fair value and subsequently recorded at amortised cost. Cash and cash equivalents comprise cash on hand, highly liquid investment and short-term deposits, all of which are available for use by the entity with insignificant risk of changes in value.

OTHER FINANCIAL ASSETS

Other financial assets are initially measured at fair value plus transaction costs that are directly attributable to the acquisition, which is deemed to be their fair value and subsequently recorded at amortised cost and fair value.

Other financial assets comprise shares in JSE listed companies and shares in co-operatives. The fair value of the other financial assets traded in active markets is based on quoted market prices (closing price) at the end of each reporting period.

SUBSEQUENT MEASUREMENT OF FINANCIAL ASSETS AND FINANCIAL LIABILITIES

The entity measures all financial assets and financial liabilities after initial recognition using the following categories:

- Financial instruments at fair value.
- Financial instruments at amortised cost.
- Financial instruments at cost.

Impairment and uncollectivity of financial assets

The entity assesses at the end of each reporting period whether there is any objective evidence that a financial asset or group of financial assets is impaired.

DERECOGNITION

The entity derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, are settled, waived, or when it transfers substantially all the risks and rewards of ownership of the asset to another party. If the entity neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the entity recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the entity retains substantially all the risks and rewards of ownership of a transferred financial asset, the entity continues to recognise the financial asset.

The entity derecognises financial liabilities when, and only when, the entity obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed is recognised in surplus or deficit.

1.11 Statutory receivables Identification

Statutory receivables are receivables that arise from legislation, supporting regulations, or similar means, and require settlement by another entity in cash or another financial asset.

Carrying amount is the amount at which an asset is recognised in the statement of financial position.

The cost method is the method used to account for statutory receivables that requires such receivables to be measured at their transaction amount, plus any accrued interest or other charges (where applicable) and, less any accumulated impairment losses and any amounts derecognised.

The transaction amount for a statutory receivable means the amount specified in, or calculated, levied or charged in accordance with, legislation, supporting regulations, or similar means.

RECOGNITION

The entity recognises statutory receivables as follows:

- if the transaction is an exchange transaction, using the policy on Revenue from exchange transactions;
- if the transaction is a non-exchange transaction, using the policy on Revenue from non-exchange transactions (Taxes and transfers); or
- if the transaction is not within the scope of the policies listed in the above or another Standard of GRAP, the receivable is recognised when the definition of an asset is met and, when it is probable that the future economic benefits or service potential associated with the asset will flow to the entity and the transaction amount can be measured reliably.

INITIAL MEASUREMENT

The entity initially measures statutory receivables at their transaction amount.

SUBSEQUENT MEASUREMENT

The entity measures statutory receivables after initial recognition using the cost method. Under the cost method, the initial measurement of the receivable is changed subsequent to initial recognition to reflect any:

- interest or other charges that may have accrued on the receivable (where applicable);
- impairment losses; and
- amounts derecognised.

DERECOGNITION

The entity derecognises a statutory receivable, or a part thereof, when:

- the rights to the cash flows from the receivable are settled, expired or are waived;
- the entity transfers to another party substantially all of the risks and rewards of ownership of the receivable; or
- the entity, despite having retained some significant risks and rewards of ownership of the receivable, has transferred control of the receivable to another party and the other party has the practical ability to sell the receivable in its entirety to an unrelated third party, and is able to exercise that ability unilaterally and without needing to impose additional restrictions on the transfer. In this case, the entity:
 - » derecognise the receivable; and
 - » recognise separately any rights and obligations created or retained in the transfer.

1.11 STATUTORY RECEIVABLES IDENTIFICATION (CONTINUED)

- » The carrying amounts of any statutory receivables transferred are allocated between the rights or obligations retained and those transferred on the basis of their relative fair values at the transfer date. The entity considers whether any newly created rights and obligations are within the scope of the Standard of GRAP on Financial Instruments or another Standard of GRAP.

Any difference between the consideration received and the amounts derecognised and, those amounts recognised, are recognised in surplus or deficit in the period of the transfer.

1.12 TAX

TAX EXPENSES

The entity is exempt from income tax in terms of section 10(1) (a) of the Income Tax Act (Act no. 58 1962).

VALUE ADDED TAX

The entity is subject to a value added tax ("VAT") of 15% for the sale of goods and services. The amount of VAT liability is determined by applying the applicable tax rate to the invoiced amount of the sale of goods and services (output VAT) less VAT paid on purchases made with the relevant supporting invoices (input VAT). The entity reports revenue net value added tax for all the periods presented in the statement of financial performance.

1.13 LEASES

A lease is an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period of time.

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

The entity has entered into commercial property leases on land and buildings and it retains all the significant risks and rewards of ownership of the properties. The entity accounts for these contracts as operating lease, with the entity being a lessor. On the other hand, the entity leases premises occupied by staff in regional offices, where it does not retain all the significant risks and rewards of ownership of these properties and so accounts for these contracts as operating leases, with the entity being a lessee.

Operating leases - lessor

Operating lease revenue is recognised as revenue on a straight-line basis over the lease term. Income for leases is disclosed under revenue in statement of financial performance

OPERATING LEASES - LESSEE

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset or liability.

1.14 INVENTORIES

Inventories are initially measured at cost except where inventories are acquired through a non-exchange transaction, then their costs are their fair value as at the date of acquisition.

Subsequently inventories are measured at the lower of cost and net realisable value.

Inventories are measured at the lower of cost and current replacement cost where they are held for;

- distribution at no charge or for a nominal charge; or
- consumption in the production process of goods to be distributed at no charge or for a nominal charge.

Net realisable value is the estimated selling price in the ordinary course of operations less the estimated costs of completion and the estimated costs necessary to make the sale, exchange or distribution.

Current replacement cost is the cost the entity incurs to acquire the asset on the reporting date.

The cost of inventories comprises of all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

The cost of inventories is assigned using the weighted average cost formula. The same cost formula is used for all inventories having a similar nature and use to the entity.

Consumable stores are valued at the lower of cost and current replacement cost. Research Livestock is valued at the lower of cost or net realisable value. Cost of work in progress and finished goods includes direct costs and an appropriate allocation of overheads based on normal production levels.

Inventories comprising agricultural produce that an entity has harvested from its biological assets shall be measured on initial recognition at their fair value less costs to sell at the point of harvest. This is the cost of the inventories at that date for application of this Standard.

When inventories are sold, the carrying amounts of those inventories are recognised as an expense in the period in which the related revenue is recognised. If there is no related revenue, the expenses are recognised when the goods are distributed, or related services are rendered. The amount of any write-down of inventories to net realisable value or current replacement cost and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realisable value or current replacement cost, are recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

1.15 IMPAIRMENT OF CASH-GENERATING ASSETS

Cash-generating assets are assets used with the objective of generating a commercial return. Commercial return means that positive cash flows are expected to be significantly higher than the cost of the asset.

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Carrying amount is the amount at which an asset is recognised in the statement of financial position after deducting any accumulated depreciation and accumulated impairment losses thereon.

A cash-generating unit is the smallest identifiable group of assets used with the objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

Costs of disposal are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expense.

Fair value less costs to sell is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal.

Recoverable amount of an asset or a cash-generating unit is the higher its fair value less costs to sell and its value in use.

IDENTIFICATION

When the carrying amount of a cash-generating asset exceeds its recoverable amount, it is impaired.

The entity assesses at each reporting date whether there is any indication that a cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also tests a cash-generating intangible asset with an indefinite useful life or a cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset was tested for impairment before the end of the current reporting period.

VALUE IN USE

Value in use of a cash-generating asset is the present value of the estimated future cash flows expected to be derived from the continuing use of an asset and from its disposal at the end of its useful life.

When estimating the value in use of an asset, the entity estimates the future cash inflows and outflows to be derived from continuing use of the asset and from its ultimate disposal and the entity applies the appropriate discount rate to those future cash flows.

RECOGNITION AND MEASUREMENT (INDIVIDUAL ASSET)

If the recoverable amount of a cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

Any impairment loss of a revalued cash-generating asset is treated as a revaluation decrease.

When the amount estimated for an impairment loss is greater than the carrying amount of the cash-generating asset to which it relates, the entity recognises a liability only to the extent that is a requirement in the Standard of GRAP.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the cash-generating asset is adjusted in future periods to allocate the cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

REVERSAL OF IMPAIRMENT LOSS

The entity assesses at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable amount of that asset.

An impairment loss recognised in prior periods for a cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable amount. The increase is a reversal of an impairment loss. The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a cash-generating asset is recognised immediately in surplus or deficit. Any reversal of an impairment loss of a revalued cash-generating asset is treated as a revaluation increase.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the cash-generating asset is adjusted in future periods to allocate the cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

A reversal of an impairment loss for a cash-generating unit is allocated to the cash-generating assets of the unit pro rata with the carrying amounts of those assets. These increases in carrying amounts are treated as reversals of impairment losses for individual assets. No part of the amount of such a reversal is allocated to a non-cash-generating asset contributing service potential to a cash-generating unit.

In allocating a reversal of an impairment loss for a cash-generating unit, the carrying amount of an asset is not increased above the lower of:

- its recoverable amount (if determinable); and
- the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior periods.

The amount of the reversal of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other assets of the unit.

1.16 SHARE CAPITAL / CONTRIBUTED CAPITAL

The capital fund represents the amount of net assets at the date of transfer from the government to the entity.

1.17 EMPLOYEE BENEFITS

1.18 PROVISIONS AND CONTINGENCIES

Provisions are recognised when:

- the entity has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; and
- a reliable estimate can be made of the obligation.

The amount of a provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date.

Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Provisions are reversed if it is no longer probable that an outflow of resources embodying economic benefits or service potential will be required, to settle the obligation.

Provisions are not recognised for future operating losses.

Contingent liabilities are disclosed, unless the possibility of an outflow of resources embodying economic benefits or service potential is remote.

Contingent assets are not recognised in financial statements since this may result in the recognition of revenue that may never be realised. However, when the realisation of revenue is virtually certain, then the related asset is not a contingent asset and its recognition is appropriate.

A restructuring provision includes only the direct expenditures arising from the restructuring, which are those that are both:

- necessarily entailed by the restructuring; and
- not associated with the ongoing activities of the entity

No obligation arises as a consequence of the sale or transfer of an operation until the entity is committed to the sale or transfer, that is, there is a binding arrangement.

After their initial recognition contingent liabilities recognised in entity combinations that are recognised separately are subsequently measured at the higher of:

- the amount that would be recognised as a provision; and
- the amount initially recognised less cumulative amortisation

A contingent liability is a possible obligation that arises from past events, and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity, or a present obligation that arises from past events but is not recognised because it is not probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation or the amount of the obligation cannot be measured with sufficient reliability.

Contingent assets and contingent liabilities are not recognised in financial statements. Contingencies are disclosed in note 35.

1.19 COMMITMENTS

Items are classified as commitments when an entity has committed itself to future transactions that will normally result in the outflow of cash.

Disclosures are required in respect of unrecognised contractual commitments.

Commitments for which disclosure is necessary to achieve a fair presentation should be disclosed in a note to the financial statements, if both the following criteria are met:

- Contracts should be non-cancellable or only cancellable at significant cost (for example, contracts for computer or building maintenance services); and
- Contracts should relate to something other than the routine, steady, state business of the entity – therefore salary commitments relating to employment contracts or social security benefit commitments are excluded.

1.20 REVENUE FROM EXCHANGE TRANSACTIONS

Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets, other than increases relating to contributions from owners.

An exchange transaction is one in which the entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of goods, services or use of assets) to the other party in exchange.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

MEASUREMENT

Revenue is measured at the fair value of the consideration received or receivable, net of trade discounts and volume rebates.

The amount of revenue arising on a transaction which is statutory (non-contractual) in nature is usually measured by reference to the relevant legislation, regulation or similar means. The fee structure, tariffs or calculation basis specified in legislation, regulation or similar means is used to determine the amount of revenue that should be recognised. This amount represents the fair value, on initial measurement, of the consideration received or receivable for revenue that arises from a statutory (non-contractual) arrangement (see the accounting policy on Statutory Receivables).

1.20 Revenue from exchange transactions (continued) Rental of facilities and equipment

Rental income of facilities and equipment from tenants is recognised in the statement of financial performance on a straight line basis over the term of lease agreement. Lease incentives granted are recognised as an integral part of the total rental income, over the term of the lease agreement.

SALE OF GOODS

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:

- the entity has transferred to the purchaser the significant risks and rewards of ownership of the goods;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

RENDERING OF SERVICES

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated with the transaction is recognised by reference to the stage of completion of the transaction at the reporting date. The outcome of a transaction can be estimated reliably when all the following conditions are satisfied:

- the amount of revenue can be measured reliably.
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity;
- the stage of completion of the transaction at the reporting date can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When services are performed by an indeterminate number of acts over a specified time frame, revenue is recognised on a straight-line basis over the specified time frame unless there is evidence that some other method better represents the stage of completion. When a specific act is much more significant than any other acts, the recognition of revenue is postponed until the significant act is executed.

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue is recognised only to the extent of the expenses recognised that are recoverable.

Service revenue is recognised by reference to the stage of completion of the transaction at the reporting date. Stage of completion is determined by the proportion that costs incurred to date bear to the total estimated costs of the transaction.

Diagnostic service revenue is recognised by reference to the stage of completion of the tests at the reporting date. Stage of completion is determined by the proportion that costs incurred to date bear to the total estimated costs of the transaction.

DIAGNOSTIC SERVICES

Due to the short lead time and the nature of the diagnostic tests, the diagnostic revenue is recognised at the completion of the diagnostic tests.

RESEARCH REVENUE

When the outcome of a research can be estimated reliably, research revenue and research costs associated with the research are recognised with reference to the stage of completion of the research at the reporting date. The stage of completion is determined using costs or scientific estimate and or milestone achieved as set in the project.

An expected loss on research is recognised in the statement of financial performance immediately.

When the outcome of research cannot be estimated reliably, revenue is recognised only to the extent of research costs incurred for which it is probable that the costs will be recovered. Research costs are recognised as expenses in the period they are incurred.

The entity has several funders that normally process payments for research related activities prior to the actual research commencing. Upon receipt, a liability is raised (income received in advance) and reduced as and when costs are incurred on the respective project.

ADVISORY SERVICES

Revenue from consulting and training services is recognised when services have been rendered however revenue from the PDP programme is recognised on a cost recovery basis.

BAD DEBTS RECOVERED

Revenue from bad debts recovered is recognised when payment is received for debts that were written off and considered uncollectible.

OTHER INCOME

Revenue that is not in the ordinary course of business is recognised as other income. Revenue from the sale of blood vaccines is recognised when significant risks and rewards of ownership of the goods are transferred to the buyer. Revenue from lost cards, tender sales and other adhoc sales are recognised when goods or services are received or rendered.

INTEREST, ROYALTIES AND DIVIDENDS

Revenue arising from the use by others of entity assets yielding interest, royalties and dividends or similar distributions is recognised when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity, and
- The amount of the revenue can be measured reliably.
- Interest is recognised, in surplus or deficit, using the effective interest rate method as it accrues.

Interest is predominantly earned from funds received in advance prior to the commencement or execution of projects and invested in fixed deposits and call accounts.

Royalties are recognised as they are earned in accordance with the substance of the relevant agreements.

Dividends or similar distributions are recognised, in surplus or deficit, when the entity's right to receive payment has been established.

1.21 Revenue from non-exchange transactions

Revenue received from conditional grants, donations and funding are recognised as revenue at fair value of the consideration received to the extent that the entity has complied with any of the criteria, conditions or obligations embodied in the agreement.

To the extent that the criteria, conditions or obligations have not been met a liability is recognised.

Non-exchange transactions are transactions that are not exchange transactions. In a non-exchange transaction, an entity either receives value from another entity without directly giving approximately equal value in exchange or gives value to another entity without directly receiving approximately equal value in exchange.

Government grants are recognised when it is probable that future economic benefits will flow to the public entity and these benefits can be measured reliably. The grants are recognised as income to the extent that there are no further obligations arising from the receipt of the grants.

An inflow of resources from a non-exchange transaction recognised as an asset is recognised as revenue, except to the extent that a liability is also recognised in respect of the same inflow.

Government grants received for the purpose of giving immediate financial support with no future related cost are recognised as revenue in the period in which they become receivable. Government grants relating to specific expenditure are recognised in the year during the expenses are incurred.

MEASUREMENT

Revenue from a non-exchange transaction is measured at the amount of the increase in net assets recognised by the entity.

1.22 REPAIRS AND MAINTENANCE

The cost of normal, recurring or periodic repairs and maintenance activities should be expensed as incurred. In other words, cost during the in-service stage extends the existing service potential of the long-lived asset or replace significant components of the long lived asset should be capitalized. All other costs, including normal repairs and maintenance activities, should be expensed as incurred.

1.23 OPERATING AND ADMINISTRATIVE EXPENDITURE

Operating and administrative expenditure is recognised on an accrual basis of accounting. Unless permitted by another standard of GRAP, operating and administrative expenditure has not been offset against revenue.

1.24 ACCOUNTING BY PRINCIPALS AND AGENTS IDENTIFICATION

An agent is an entity that has been directed by another entity (a principal), through a binding arrangement, to undertake transactions with third parties on behalf of the principal and for the benefit of the principal.

A principal is an entity that directs another entity (an agent), through a binding arrangement, to undertake transactions with third parties on its behalf and for its own benefit.

A principal-agent arrangement results from a binding arrangement in which one entity (an agent), undertakes transactions with third parties on behalf, and for the benefit of, another entity (the principal).

IDENTIFYING WHETHER AN ENTITY IS A PRINCIPAL OR AN AGENT

When the entity is party to a principal-agent arrangement, it assesses whether it is the principal or the agent in accounting for revenue, expenses, assets and/or liabilities that result from transactions with third parties undertaken in terms of the arrangement.

The assessment of whether an entity is a principal or an agent requires the entity to assess whether the transactions it undertakes with third parties are for the benefit of another entity or for its own benefit.

BINDING ARRANGEMENT

The entity assesses whether it is an agent or a principal by assessing the rights and obligations of the various parties established in the binding arrangement.

Where the terms of a binding arrangement are modified, the parties to the arrangement re-assess whether they act as a principal or an agent.

ASSESSING WHICH ENTITY BENEFITS FROM THE TRANSACTIONS WITH THIRD PARTIES

When the entity in a principal-agent arrangement concludes that it undertakes transactions with third parties for the benefit of another entity, then it is the agent. If the entity concludes that it is not the agent, then it is the principal in the transactions.

The entity is an agent when, in relation to transactions with third parties, all three of the following criteria are present:

- It does not have the power to determine the significant terms and conditions of the transaction.
- It does not have the ability to use all, or substantially all, of the resources that result from the transaction for its own benefit.
- It is not exposed to variability in the results of the transaction.

Where the entity has been granted specific powers in terms of legislation to direct the terms and conditions of particular transactions, it is not required to consider the criteria of whether it does not have the power to determine the significant terms and conditions of the transaction, to conclude that it is an agent. The entity applies judgement in determining whether such powers exist and whether they are relevant in assessing whether the entity is an agent.

RECOGNITION

The entity, as a principal, recognises revenue and expenses that arise from transactions with third parties in a principal-agent arrangement in accordance with the requirements of the relevant Standards of GRAP.

The entity recognises assets and liabilities arising from principal-agent arrangements in accordance with the requirements of the relevant Standards of GRAP.

1.25 TRANSLATION OF FOREIGN CURRENCIES FOREIGN CURRENCY TRANSACTIONS

A foreign currency transaction is recorded, on initial recognition in Rands, by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.

At each reporting date:

- foreign currency monetary items are translated using the closing rate;
- non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction; and
- non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

Trade receivables and payables denominated in foreign currencies at the reporting date are re-translated to the functional currency at the spot rate at that date. Any resulting foreign exchange gains or losses are recognised in surplus or deficit in the statement of financial performance. The foreign currency gain or loss on monetary items is the difference between armotised cost or fair value in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the armotised cost in foreign currency translated at the exchange rate at the end of the reporting period.

Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are re-translated to the functional currency at the exchange rate at the date that the fair value was determined. Foreign currency differences arising on re-translation are recognised in surplus or deficit in the statement of financial performance.

Non-monetary items that are measured in terms of historical cost in foreign currency are translated using the exchange rate at the date of the transaction.

Cash flows arising from transactions in a foreign currency are recorded in Rands by applying to the foreign currency amount the exchange rate between the Rand and the foreign currency at the date of the cash flow.

1.26 INSURANCE FUND

In terms of the entity policy to cover a portion of vehicle, non-vehicle, stated benefits and fire and allied perils insurance claims, a risk assessment is made annually in conjunction with the insurance brokers in order to determine the extent of the self- insured amount to be credited to the reserve.

In determining the amount to be credited, the principle of maximum insurance cover at the lowest possible cost is applied.

The portion of claims borne by the entity is accounted for against the reserve. Any shortfalls on the reserve are written off against accumulated surplus in the year in which it originated, and any surplus is carried over to the following year.

1.27 COMPARATIVE FIGURES

Where necessary, comparative figures have been reclassified to conform to changes in presentation in the current year.

1.28 FRUITLESS AND WASTEFUL EXPENDITURE

Fruitless expenditure means expenditure which was made in vain and would have been avoided had reasonable care been exercised.

All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the statement of financial performance in the period that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

Fruitless and wasteful expenditure is accounted for in line with all relating requirements, including, but not limited to, ruling Legislation, Regulations, Frameworks, Circulars, Instruction Notes, Practice Notes, Guidelines etc (as applicable).

1.29 IRREGULAR EXPENDITURE

Irregular expenditure as defined in section 1 of the PFMA is expenditure other than unauthorised expenditure, incurred in the contravention of or that is not in accordance with the requirement of any applicable legislation, including -

1. this Act; or
2. the State Tender Board Act, 1968 (Act No. 86 of 1968), or any regulations made in terms of the Act; or
3. any provincial legislation providing to procurement procedures in that provincial government.

Irregular expenditure as defined that was incurred and identified during the current financial year and which was condoned before year end and/or before finalisation of the financial statements must also be recorded appropriately in the irregular expenditure register. In such an instance, no further action is also required with the exception of updating the note to the financial statements.

Irregular expenditure that was incurred and identified during the current financial year and for which condonement is being awaited at year end must be recorded in the irregular expenditure register. No further action is required with the exception of updating the note to the financial statements.

Where irregular expenditure was incurred in the previous financial year and is only condoned in the following financial year, the register and the disclosure note to the financial statements must be updated with the amount condoned.

Irregular expenditure that was incurred and identified during the current financial year and which was not condoned by the National Treasury or the relevant authority must be recorded appropriately in the irregular expenditure register. If liability for the irregular expenditure can be attributed to a person, a debt account must be created if such a person is liable in law. Immediate steps must thereafter be taken to recover the amount from the person concerned. If recovery is not possible, the accounting officer or accounting authority may write off the amount as debt impairment and disclose such in the relevant note to the financial statements. The irregular expenditure register must also be updated accordingly. If the irregular expenditure has not been condoned and no person is liable in law, the expenditure related thereto must remain against the relevant programme/expenditure item, be disclosed as such in the note to the financial statements and updated accordingly in the irregular expenditure register.

The ARC will only record irregular expenditure when a transaction is recognised as expenditure in the Statement of Financial Performance in accordance with GRAP in the period that the expenditure was incurred.

1.30 SEGMENT INFORMATION

A segment is an activity of an entity:

- that generates economic benefits or service potential (including economic benefits or service potential relating to transactions between activities of the same entity);
- whose results are regularly reviewed by management to make decisions about resources to be allocated to that activity and in assessing its performance; and
- for which separate financial information is available.

Reportable segments are the actual segments which are reported on in the segment report. They are the segments identified above or alternatively an aggregation of two or more of those segments where the aggregation criteria are met.

MEASUREMENT

The amount of each segment item reported is the measure reported to management for the purposes of making decisions about allocating resources to the segment and assessing its performance. Adjustments and eliminations made in preparing the entity's financial statements and allocations of revenues and expenses are included in determining reported segment surplus or deficit only if they are included in the measure of the segment's surplus or deficit that is used by management. Similarly, only those assets and liabilities that are included in the measures of the segment's assets and segment's liabilities that are used by management are reported for that segment. If amounts are allocated to reported segment surplus or deficit, assets or liabilities, those amounts are allocated on a reasonable basis.

If management uses only one measure of a segment's surplus or deficit, the segment's assets or the segment's liabilities in assessing segment performance and deciding how to allocate resources, segment surplus or deficit, assets and liabilities are reported in terms of that measure. If management uses more than one measure of a segment's surplus or deficit, the segment's assets or the segment's liabilities, the reported measures are those that management believes are determined in accordance with the measurement principles most consistent with those used in measuring the corresponding amounts in the entity's financial statements.

1.31 RESEARCH AND DEVELOPMENT EXPENDITURE

Expenditure on research is recognised as an expense when it is incurred. An asset arising from development is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale.
- there is an intention to complete and use or sell it.
- there is an ability to use or sell it.
- it will generate probable future economic benefits or service potential.
- there are available technical, financial and other resources to complete the development and to use or sell the asset.
- the expenditure attributable to the asset during its development can be measured reliably.

1.32 BUDGET INFORMATION

Entity are typically subject to budgetary limits in the form of appropriations or budget authorisations (or equivalent), which is given effect through authorising legislation, appropriation or similar.

General purpose financial reporting by entity shall provide information on whether resources were obtained and used in accordance with the legally adopted budget.

The approved budget is prepared on a accrual basis and presented by programmes linked to performance outcome objectives. The approved budget covers the fiscal period from 2024/04/01 to 2025/03/31.

The budget for the economic entity includes all the entities approved budgets under its control.

The annual financial statements and the budget are on the same basis of accounting therefore a comparison with the budgeted amounts for the reporting period have been included in the Statement of comparison of budget and actual amounts.

The Statement of comparative and actual information has been included in the annual financial statements as the recommended disclosure when the annual financial statements and the budget are on the same basis of accounting as determined by National Treasury.

Budget comparative information for prior year is not required.

1.33 RELATED PARTIES

A related party is a person or an entity with the ability to control or jointly control the other party, or exercise significant influence over the other party, or vice versa, or an entity that is subject to common control, or joint control.

Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities.

Joint control is the agreed sharing of control over an activity by a binding arrangement, and exists only when the strategic financial and operating decisions relating to the activity require the unanimous consent of the parties sharing control (the venturers).

Related party transaction is a transfer of resources, services or obligations between the reporting entity and a related party, regardless of whether a price is charged.

Significant influence is the power to participate in the financial and operating policy decisions of an entity, but is not control over those policies.

The entity operates in an economic sector currently dominated by entities directly or indirectly owned by the South African Government. As a consequence of the constitutional independence of the three spheres of government in South Africa, only entities within the national sphere of government are considered to be related parties.

Management are those persons responsible for planning, directing and controlling the activities of the entity, including those charged with the governance of the entity in accordance with legislation, in instances where they are required to perform such functions.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by that person in their dealings with the entity.

The entity is exempt from disclosure requirements in relation to related party transactions if that transaction occurs within normal supplier and/or client/recipient relationships on terms and conditions no more or less favourable than those which it is reasonable to expect the entity to have adopted if dealing with that individual entity or person in the same circumstances and terms and conditions are within the normal operating parameters established by that reporting entity's legal mandate.

Where the entity is exempt from the disclosures in accordance with the above, the entity discloses narrative information about the nature of the transactions and the related outstanding balances, to enable users of the entity's financial statements to understand the effect of related party transactions on its annual financial statements.

1.34 EVENTS AFTER REPORTING DATE

Events after reporting date are those events, both favourable and unfavourable, that occur between the reporting date and the date when the financial statements are authorised for issue. Two types of events can be identified:

- those that provide evidence of conditions that existed at the reporting date (adjusting events after the reporting date); and
- those that are indicative of conditions that arose after the reporting date (non-adjusting events after the reporting date).

The entity will adjust the amount recognised in the financial statements to reflect adjusting events after the reporting date once the event occurred.

The entity will disclose the nature of the event and an estimate of its financial effect or a statement that such estimate cannot be made in respect of all material non-adjusting events, where non-disclosure could influence the economic decisions of users taken on the basis of the financial statements.

1.35 BORROWING COSTS

Borrowing costs are interest and other expenses incurred by an entity in connection with the borrowing of funds. Borrowing costs are recognised as an expense in the period in which they are incurred.

1.36 CHANGES IN ACCOUNTING POLICIES, ESTIMATES AND ERRORS

Changes in Accounting Policies that are affected by management have been applied retrospectively in accordance with GRAP 3 requirements, except to the extent that it is impractical to determine the period-specific effects or the cumulative effect of the change in policy. In such cases, the entity restated the opening balances of assets, liabilities, and net assets for the earliest period for which retrospective restatement is practical. Details of Changes in Accounting Policies are disclosed in the Notes to the annual financial statements where applicable.

Changes in Accounting Estimates are applied prospectively in accordance with GRAP 3 requirements. Details of the changes in estimates are disclosed in the Notes to the Financial Statements where applicable.

Correction of Errors is applied retrospectively in the period in which the error has occurred in accordance with GRAP 3 requirements, except to the extent that it is impractical to determine the period-specific effects or the cumulative effect of the retrospective restatement is practical. Details of Correction of Errors are disclosed in the Notes to the Annual Financial Statements where applicable.

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

2. NEW STANDARDS AND INTERPRETATIONS

2.1 STANDARDS AND INTERPRETATIONS ISSUED, BUT NOT YET EFFECTIVE

The entity has not applied the following standards and interpretations, which have been published and are mandatory for the entity's accounting periods beginning on or after 01 April 2025 or later periods:

Standard/ Interpretation: Years beginning on or after	Expected impact:	Effective date:
GRAP 1 (amended): Presentation of Financial Statements (Going Concern)	To be determined	The impact is likely not to be material.
GRAP 103 (amended): Heritage Assets	To be determined be material.	The impact is likely not to be material.
iGRAP 22 Foreign Currency Transactions and Advance Consideration	01 April 2025	The impact is likely not to be material.
GRAP 104 (as revised): Financial Instruments	01 April 2025	The impact is likely to be material.

3. INVESTMENT REVENUE

Figures in Rand	Note(s)	2025	2024 Restated*
Dividend revenue			
Listed financial assets - Local*		26 034	102 151
Interest revenue			

Bank	82 362 687	91 456 414
	82 388 721	91 558 565

*Refer to note 24.

4. GOVERNMENT GRANTS

Figures in Rand	Note(s)	2025	2024 Restated*
Operating grants			
Government grant (operating)		851 463 988	934 726 196
Capital grants			
Government grant (capital)		99 835 016	110 026 000
Donor funded revenue		173 446 517	-
		273 281 533	110 026 000
		1 124 745 521	1 044 752 196
Conditional and Unconditional			
Included in above are the following grants and subsidies recognised:			
Conditional grants recognised		11 139 004	8 616 544
Unconditional grants received		940 160 000	1 036 135 652
		951 299 004	1 044 752 196

The entity receives parliamentary grants by virtue of being a schedule 3(a) PFMA national public entity and the amounts are determined by National Treasury on an annual basis (see note 27).

5. EMPLOYEE RELATED COSTS

Figures in Rand	Note(s)	2025	2024 Restated*
Salaries and wages		736 581 780	666 370 712
Medical aid - company contributions		17 130 870	17 289 387
Unemployment insurance fund		4 352 285	3 963 765
Workers compensation contribution		1 384 638	1 290 257
Skills development levy		7 369 304	6 600 536
Leave pay provision charge		10 135 190	7 351 258
Personal training		6 732 132	6 323 684
Membership fees		3 827 249	2 212 077
Defined contribution plans		67 678 369	63 496 813
Overtime payments		6 924 551	6 083 368

Long-service awards	3 820 400	3 911 190
Deferred compensation - fixed and variable pay	57 199 495	10 030 392
Allowance	10 686 678	9 644 202
Corporate - Royalty Benefit-sharing	11 301 145	8 186 111
	945 124 086	812 753 752

6. DEPRECIATION AND AMORTISATION

Figures in Rand	Note(s)	2025	2024 Restated*
Property, plant and equipment		72 367 215	75 413 829
Investment property		255 170	184 295
Intangible assets		2 567 888	6 823 088
Living resources		278 775	329 648
		75 469 048	82 750 860

7. FINANCE COSTS

Trade and other payables	20 537	36 002

8. LEASE RENTALS ON OPERATING LEASE

Figures in Rand	Note(s)	2025	2024 Restated*
Premises			
Contractual amounts		460 490	425 064
Motor vehicles			
Contingent amounts		568 805	12 453
Equipment			
Contractual amounts		3 751 796	2 893 974
		4 781 091	3 331 491

9. GENERAL EXPENSES

Figures in Rand	Note(s)	2025	2024 Restated*
Advertising		1 156 984	1 077 165
Bank charges		880 182	784 579
Cleaning		10 109 567	8 682 850
Commission paid		746 112	393 898
Computer expenses		58 827 295	42 708 317
Consulting and professional fees		116 120 042	53 155 875
Fines and penalties		-	1 162
Animal Costs		10 879 738	12 106 242
Insurance		4 423 917	4 251 523
Conferences and seminars		2 529 478	1 709 882
Fleet		38 064 730	29 340 103
Marketing		8 885 756	14 868 758
Horticulture		3 945 684	3 702 929
Magazines, books and periodicals		12 320 091	11 303 661
Pest control		2 697 102	6 874 771
Fuel and oil		12 466 162	24 060 833
Postage and courier		740 567	541 314
Printing and stationery		3 440 275	3 286 987
Protective clothing		6 591 513	4 482 895
Research and development costs		158 695 331	98 416 533
Security		37 008 629	31 708 438
Staff welfare		10 059 906	9 075 832
Telephone and fax		4 431 992	4 450 395
Travel- local		62 346 752	31 340 028
Travel- overseas		26 528 857	14 461 939
Utilities		106 837 827	90 868 631
General expenses*		21 752 461	15 374 600
		722 486 950	519 030 140

*General expenses comprise of library database subscriptions, institute costs - lab, special investigations, tools and inter-institutes- transactions.

10. FAIR VALUE ADJUSTMENTS

Figures in Rand	Note(s)	2025	2024 Restated*
Other financial assets			
• Other financial assets (Designated as at FV through P&L) Refer to note 24		14 066	100 255

11. GAINS /(LOSSES) ON BIOLOGICAL ASSETS AND AGRICULTURAL PRODUCE

Figures in Rand	Note(s)	2025	2024 Restated*
Gains or losses arising from a change in fair value less point of sale costs		(472 023)	2 009 381
Gain or loss on initial recognition of biological asset		(2 705 595)	2 736 731
		(3 177 618)	4 746 112

12. IMPAIRMENT OF ASSETS

Figures in Rand	Note(s)	2025	2024 Restated*
Impairments			
Property, plant and equipment		155 028	7 873
Trade and other receivables		6 109 061	3 723 160
		6 264 089	3 731 033

13. INVENTORIES

Figures in Rand	Note(s)	2025	2024 Restated*
Biological Assets- Bearer		3 061 096	3 665 735
Biological Assets – Consumable (Fair Value)		2 731 299	2 486 348
Consumable stores		6 643 693	9 240 706
Finished goods		748 581	666 428
Forage		3 783 409	2 712 791
Livestock held for research		1 464 999	1 428 177
		18 433 077	20 200 185
Carrying value of inventories carried at fair value less costs to sell		5 792 395	6 152 083
Inventories recognised as an expense during the year		3 166 008	2 829 095

Inventory pledged as security

There are no inventories pledged as security.

14. OPERATING LEASE ASSET (LIABILITY)

Figures in Rand	Note(s)	2025	2024 Restated*
Non-current assets		3 307 707	3 725 508
Current assets		594 168	356 882
		3 901 875	4 082 390

15. RECEIVABLES FROM EXCHANGE TRANSACTIONS

Figures in Rand	Note(s)	2025	2024 Restated*
Trade receivables		848 325 581	156 276 466
Staff receivables		3 191 687	2 768 244
Deposits		3 628 001	3 402 043
Recoverable fruitless and wasteful expenditure		155 392	56 620
Other debtors*		17 220 341	9 394 934
		872 521 002	171 898 307

*Included in other debtors is revenue accrual

Trade and staff receivables are shown net of impairment losses.

In line with our credit policy, amounts due are assessed annually for impairment. Provision is made for amounts outstanding for 150 days plus only if a single payment was made by the customer in the financial year. If no payments were made, a provision is made from 90 days and above.

Of the R27 million of provision for bad debts, R5 million relates to government while R22 million relates to private clients.

Figures in Rand	Note(s)	2025	2024 Restated*
Trade and other receivables past due but not impaired			
The ageing of amounts past due but not impaired is as follows:			
60 days past due		43 444 902	715 004
61- 90 days past due		107 933 103	224 648
120 days past due		42 170 810	1 196 106
More than 150 days past due		340 374 446	2 704 151

Figures in Rand	Note(s)	2025	2024 Restated*
Reconciliation of provision for impairment of trade and other receivables			
Opening balance		21 677 710	29 970 892
Provision for impairment		5 610 842	3 345 419
Amounts written off as uncollectible		-	(279 052)
Unwinding of discount		-	(11 359 549)
		27 288 552	21 677 710
Reconciliation of provision for impairment of staff receivables			
Opening balance		346 425	676 089
Provision for impairment		498 219	299 277
Amounts written off as uncollectible		-	(628 941)
		844 644	346 425

16. PREPAYMENTS

Figures in Rand	Note(s)	2025	2024 Restated*
Prepayments are as a result of subscriptions and licenses paid in advance.			
Current assets		41 545 172	19 709 965
Non-current assets		981 648	5 536 135
		42 526 820	25 246 100

17. CASH AND CASH EQUIVALENTS

Figures in Rand	Note(s)	2025	2024 Restated*
Cash and cash equivalents consist of:			
Bank balances		119 004 582	51 964 194
Short-term deposits*		846 055 025	1 498 072 052
		965 059 607	1 550 036 246

*Included in short-term deposits are funds received from ARC funders for various research projects. These funds had not been utilised as at 31 March 2025.

The total unsecured credit facilities granted to ARC relate to fleet management cards. At year end the facility amounted to R1.98 million (31 March 2024: R1.98 million).

18. BIOLOGICAL ASSETS THAT FORM PART OF AN AGRICULTURAL ACTIVITY

	2025			2024		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Dairy cattle- Bearer	1 194 780	-	1 194 780	623 686	-	623 686
Chickens- Bearer	180 696	-	180 696	186 383	-	186 383
Total	1 375 476	-	1 375 476	810 069	-	810 069

RECONCILIATION OF BIOLOGICAL ASSETS - 2025

	Opening balance	Decreases due to harvest / sales	Increase due to assets acquired through a non-exchange transaction	Gains or losses arising from changes in fair value	Decrease due to death	Total
Dairy cattle- Bearer	623 686	(135 636)	469 267	311 461	(73 998)	1 194 780
Chickens- Bearer	186 383	(33 326)	36 756	7 781	(16 898)	180 696
	810 069	(168 962)	506 023	319 242	(90 896)	1 375 476

RECONCILIATION OF BIOLOGICAL ASSETS - 2024

	Opening balance	Decreases due to harvest / sales	Increase due to assets acquired through a non-exchange transaction	Gains or losses arising from changes in fair value	Decrease due to death	Total
Dairy cattle- Bearer	608 576	(158 776)	16 860	206 341	(49 315)	623 686
Chickens- Bearer	201 000	-	180	24 003	(38 800)	186 383
	809 576	(158 776)	17 040	230 344	(88 115)	810 069

Figures in Rand	Note(s)	2025	2024 Restated*

NON-FINANCIAL INFORMATION

Quantities of each biological asset

Dairy cattle- Bearer		197	180
Chickens- Bearer		1 539	1 577
		1 736	1 757

MATURE BIOLOGICAL ASSETS

Dairy cattle- Bearer		159	136
Chickens- Bearer		1 539	1 577
		1 698	1 713

IMMATURE BIOLOGICAL ASSETS

Dairy cattle- Bearer		38	44

PLEDGED AS SECURITY

None of the biological assets were pledged as security.

RESTRICTIONS IMPOSED BY REGULATIONS

None of the biological assets are subjects to restrictions imposed by regulations.

18. BIOLOGICAL ASSETS THAT FORM PART OF AN AGRICULTURAL ACTIVITY (CONTINUED)

NATURE

ARC has biological assets, which varies in nature and use. There are various assets both within Animal sciences and Crop sciences business units respectively.

ARC’s biological assets (bearer and consumable), agricultural products and the related products that are the result of processing after harvest.

Biological Assets	Agricultural Produce	Products as a result of processing
Dairy Cattle	Milk	Cheese, Yogurt
Beef Cattle	Carcass	Steak, Beef
Sheep	Carcass	Mutton chops
Pigs	Carcass	Sausages, bacon
Goat	Carcass	Meat
Wildlife (game)	Carcass	Venison, Biltong
Chicken	Eggs/meat	Sausages
Bushes	Leaf	Tea, cured tobacco
Vines	Grapes	Wine, fruit juices
Fruit trees	Picked fruit	Fruit juices, dried fruit

19. INVESTMENT PROPERTY

	2025			2024		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Investment property	10 807 335	(5 019 146)	5 788 189	9 397 335	(4 562 378)	4 834 957

19. INVESTMENT PROPERTY (CONTINUED)

RECONCILIATION OF INVESTMENT PROPERTY – 2025

	Opening balance	Reclassification	Depreciation	Total
Investment property	4 834 957	1 208 402	(255 170)	5 788 189

RECONCILIATION OF INVESTMENT PROPERTY – 2024

	Opening balance	Depreciation	Total
Investment property	5 019 252	(184 295)	4 834 957

PLEDGED AS SECURITY

There are no properties that have been pledged as security.

A register containing the information required by the Public Finance Management Act is available for inspection at the registered office of the entity.

AMOUNTS RECOGNISED IN SURPLUS OR (DEFICIT)

Figures in Rand	Note(s)	2025	2024 Restated*
Rental revenue from Investment property		7 739 976	8 103 015

There were no direct operating expenses, repairs, and maintenance incurred by the ARC on the investment property.

20. PROPERTY, PLANT AND EQUIPMENT

	2025			2024		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Land	918 003 988	-	918 003 988	646 741 056	-	646 741 056
Buildings	553 259 607	(85 196 575)	468 063 032	553 611 454	(63 269 592)	490 341 862
Machinery and farming equipment	228 659 392	(72 318 159)	156 341 233	221 350 967	(75 092 398)	146 258 569
Office furniture and equipment	76 011 418	(63 770 333)	12 241 085	78 432 004	(66 694 432)	11 737 572
Motor vehicles and aircraft	99 673 228	(55 007 130)	44 666 098	94 044 138	(54 285 347)	39 758 791
Computer equipment	137 950 326	(74 436 586)	63 513 740	124 825 392	(70 694 378)	54 131 014
Infrastructure	280 231 531	(75 332 479)	204 899 052	270 530 874	(76 758 775)	193 772 099
Laboratory equipment	596 753 500	(207 612 969)	389 140 531	580 600 363	(218 612 646)	361 987 717
Bearer plants	43 832 615	(22 286 796)	21 545 819	43 832 615	(19 967 134)	23 865 481
Horse	15 000	(8 998)	6 002	15 000	(7 498)	7 502
Assets under construction	93 574 993	-	93 574 993	61 503 682	-	61 503 682
Total	3 027 965 598	(655 970 025)	2 371 995 573	2 675 487 545	(645 382 200)	2 030 105 345

20. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

RECONCILIATION OF PROPERTY, PLANT AND EQUIPMENT - 2025

	Opening balance	Additions	Disposals	Re-valuations	Re-classifications	Depreciation	Impairment loss	Total
Land	646 741 056	-	-	271 262 932	-	-	-	-
Buildings	490 341 862	345 215	(1 018 110)	-	(620 049)	(20 985 886)	-	468 063 032
Machinery and farming equipment	146 258 569	25 334 125	(7 956 917)	-	357 631	(7 651 818)	(357)	156 341 233
Office furniture and equipment	11 737 572	3 007 972	(654 481)	-	872 360	(2 722 338)	-	12 241 085
Motor vehicles and aircraft	39 758 791	9 667 721	(687 948)	-	250 874	(4 288 933)	(34 407)	44 666 098
Computer equipment	54 131 014	19 169 465	(1 940 624)	-	(231 721)	(7 605 707)	(8 687)	63 513 740
Infrastructure	193 772 099	29 572 969	(10 960 104)	-	(736 297)	(6 638 685)	(110 930)	204 899 052
Laboratory equipment	361 987 717	74 797 308	(26 910 047)	-	(581 114)	(20 152 686)	(647)	389 140 531
Bearer plants	23 865 481	-	-	-	-	(2 319 662)	-	21 545 819
Horse	7 502	-	-	-	-	(1 500)	-	6 002
Assets under construction	61 503 682	32 071 311	-	-	-	-	-	93 574 993
	2 030 105 345	193 966 086	(50 128 231)	271 262 932	(688 316)	(72 367 215)	(155 028)	2 371 995 573

20. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

RECONCILIATION OF PROPERTY, PLANT AND EQUIPMENT - 2024

	Opening balance	Additions	Disposals	Re-classifications	Depreciation	Impairment loss	Total
*Land	646 741 056	-	-	-	-	-	646 741 056
Buildings	508 563 360	2 951 967	(198 609)	-	(20 974 856)	-	490 341 862
Machinery and farming equipment	131 669 415	27 782 762	(5 266 152)	-	(7 922 132)	(5 324)	146 258 569
Office furniture and equipment	14 807 576	2 386 434	(296 504)	155 155	(5 315 089)	-	11 737 572
Motor vehicles and aircraft	30 722 971	13 927 785	(609 258)	-	(4 282 707)	-	39 758 791
Computer equipment	55 377 493	7 298 702	(385 167)	-	(8 160 014)	-	54 131 014
Infrastructure	182 971 556	19 825 275	(2 799 906)	-	(6 223 452)	(1 374)	193 772 099
Buffalo	93 750	-	(65 104)	-	(28 646)	-	-
Laboratory equipment	340 380 794	46 000 974	(4 439 981)	26 595	(19 979 490)	(1 175)	361 987 717
Bearer plants	27 076 545	-	(685 121)	-	(2 525 943)	-	23 865 481
Horse	9 002	-	-	-	(1 500)	-	7 502
Assets under construction	41 417 744	20 267 688	-	(181 750)	-	-	61 503 682
	1 979 831 262	140 441 587	(14 745 802)	-	(75 413 829)	(7 873)	2 030 105 345

*Included in the Land are some portions of the land that are in the name of the South African government under the custodianship of the Department of Public Works and Infrastructure (9 national and 1 provincial). These land portions have been under the ARC's care and control including direct access to the properties and the right to restrict or deny access of others through employment of its own securities to safeguard the properties. These land portions were under the care and control of the ARC and the title deeds were endorsed in favour of the ARC in 1994. DPWI has started the process of transfer in the name of ARC.

The cost of Minor assets included in the Property, plant and equipment amounts to R83.8 million (2024 : R85.5 million).

REVALUATIONS

The effective date of the revaluations was Wednesday, 31 March 2025. Revaluations were performed by independent valuer, Mr Deon Van Onselen [Nat Diploma RE (Valuations), MIV], of Spectrum Valuations and Asset Solutions subcontracted through Enterprises University of Pretoria. Mr Van Onselen is not connected to the entity. Land and buildings are re-valued independently every 5 years.

The valuation was performed using a combination of the direct comparable sales approach and the depreciated replacement cost valuation method, involving physically and legally similar properties in the general proximity of the subject property, to enable the Valuer to arrive at a norm which will serve as a guide in estimating the Market Value of the subject properties.

These assumptions were based on current market conditions.

PLEGDED AS SECURITY

There are no assets that are pledged as security.

COMPENSATION RECEIVED FOR LOSSES ON PROPERTY, PLANT AND EQUIPMENT – INCLUDED IN OPERATING PROFIT.

Figures in Rand	Note(s)	2025	2024 Restated*
Property, plant and equipment		5 635	77 391

PROPERTY, PLANT AND EQUIPMENT IN THE PROCESS OF BEING CONSTRUCTED OR DEVELOPED

Cumulative expenditure recognised in the carrying value of property, plant and equipment

Buildings	93 574 993	61 503 682

20. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

Only the FMD building is under construction. The other work in progress relates to assets that are not ready for use. The FMD building factory progress / status has been delayed due to the following:

- Modification of the original business plan and requirement for additional funding;
- Recruitment of independent consultants or contractors were only finalised in the current
- Delays in tender and contracting process; and
- Vaccine plant and facility re-design.

RECONCILIATION OF WORK-IN-PROGRESS - 2025

	Included within Buildings	Total
Opening balance	61 503 682	61 503 682
Additions/capital expenditure	32 071 311	32 071 311
	93 574 993	93 574 993

RECONCILIATION OF WORK-IN-PROGRESS - 2024

	Included within Buildings	Total
Opening balance	41 417 744	41 417 744
Additions/capital expenditure	20 267 688	20 267 688
Transferred to completed items	(181 750)	(181 750)
	61 503 682	61 503 682

EXPENDITURE INCURRED TO REPAIR AND MAINTAIN PROPERTY, PLANT AND EQUIPMENT INCLUDED IN STATEMENT OF FINANCIAL PERFORMANCE

Repairs and maintenance	85 377 331	59 229 259

A register containing the information is available for inspection at the registered office of the entity.

21. INTANGIBLE ASSETS

	2025			2024		
	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value
Computer software	61 406 176	(49 104 236)	12 301 940	66 450 009	(51 744 734)	14 705 275

RECONCILIATION OF INTANGIBLE ASSETS - 2025

	Opening balance	Additions	Disposals	Amortisation	Total
Computer software	14 705 275	168 228	(3 675)	(2 567 888)	12 301 940

RECONCILIATION OF INTANGIBLE ASSETS - 2024

	Opening balance	Additions	Transfers	Amortisation	Total
Computer software	7 647 898	257 805	13 622 660	(2 567 888)	12 301 940
Intangible assets under development	12 070 900	1 551 760	(13 622 660)	-	-
	19 718 798	1 809 565	-	(6 823 088)	14 705 275

Intangible assets in the process of being constructed or developed

22. HERITAGE ASSETS

	2025			2024		
	Cost / Valuation	Accumulated impairment losses	Carrying value	Cost / Valuation	Accumulated impairment losses	Carrying value
Historical buildings	223 167	-	223 167	223 167	-	223 167

RECONCILIATION OF HERITAGE ASSETS - 2025

	Opening balance	Total
Historical buildings	223 167	223 167

RECONCILIATION OF HERITAGE ASSETS - 2024

	Opening balance	Total
Historical buildings	223 167	223 167

HERITAGE ASSETS WHICH FAIR VALUES CANNOT BE RELIABLY MEASURED GENEbanks

Fair value cannot be determined reliably due to the size, magnitude and lack of market of the ARC Genebanks. The ARC is not aware of any market to buy and sell Genebanks or any other valuation method or technique that is available to measure Genebanks. Due to the uniqueness of the Genebanks, mandate and nature of the ARC's Genebanks, neither the fair value, deemed cost or replacement cost could be determined for these Genebanks. For those reasons, the ARC's Genebanks could not be recognised in the financial statements .

INSECT COLLECTIONS

Fair value cannot be determined reliably due to the size, magnitude and lack of market of the ARC Insect collections. The ARC is not aware of any market to buy and sell Insect collections or any other valuation method or technique that is available to measure Insect collections. Due to the uniqueness of the Insect collections, mandate and nature of the ARC's Insect collections, neither the fair value, deemed cost or replacement cost could be determined for these Insect collections. For those reasons, the ARC's Insect collections could not be recognised in the financial statements.

EXPENDITURE INCURRED TO REPAIR AND MAINTAIN HERITAGE ASSETS

There was no repairs and maintenance expenditure incurred on heritage assets.

23. LIVING RESOURCES

	2025			2024		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
Cattle	1 423 306	(314 629)	1 108 677	3 251 406	(429 656)	2 821 750

RECONCILIATION OF INTANGIBLE ASSETS - 2025

	Opening balance	Decrease due to sale/death / harvest	Increase through non- exchange functions	Depreciation	Total
Cattle	2 821 750	(1 663 831)	229 533	(278 775)	1 108 677

RECONCILIATION OF INTANGIBLE ASSETS - 2024

	Opening balance	Decrease due to sale/death / harvest	Increase through non- exchange functions	Depreciation	Total
Cattle	1 458 819	(538 827)	2 231 406	(329 648)	2 821 750

PLEDGED AS SECURITY

There are no Living resources that are pledged as security.

24. OTHER FINANCIAL ASSETS

Figures in Rand	Note(s)	2025	2024 Restated*
DESIGNATED AT FAIR VALUE			
La Concorde Holdings Limited (formerly KWV Holdings LTD)		150 789	163 355
50 263 shares at R3.00 (2024: 50 263 shares at R3.25) Hosken Passenger Logistics and Rail Limited		445 591	418 960
64 955 shares at R6.86 (2023: 64 955 shares at R6.45)			
		596 380	582 315
RESIDUAL INTEREST AT COST			
De Doorns Winery		5 434	5 434
9 880 shares at R0.55 (2024: 9 880 shares at R0.55) Hex Valley Coolrooms		8 046	8 046
16 092 shares at R0.50 (2024: 16 092 shares at R0.50) Lutzville 2009 Co operative Limited		1 070	1 070
107 000 shares at R0.01 (2024: 107 000 shares at R0.01) Lanko Co operative Limited		21 063	21 063
21 063 shares at R1.00 (2024: 21 063 shares at R1.00) Lutzville Vineyard Co operative		44 867	44 867
44 867 shares at R1.00 (2024: 44 867 shares at R1.00) Lutzville Vineyard Co operative		10 700	10 700
1 070 000 shares at R0.01 (2024: 1 070 000 shares at R0.01) Roodezandt (Pty) Ltd		2 360	2 360
5 900 shares at R0.40			
		93 540	93 540
Total other financial assets		689 920	675 855

NON-CURRENT ASSETS

Figures in Rand	Note(s)	2025	2024 Restated*
Designated at fair value		596 380	582 315
Residual interest at cost		93 540	93 540
		689 920	675 855
Financial assets at fair value			
Fair values of financial assets measured or disclosed at fair value			
Financial assets designated at fair value - JSE listed shares		596 380	582 315

FAIR VALUE HIERARCHY OF FINANCIAL ASSETS AT FAIR VALUE

For financial assets recognised at fair value, disclosure is required of a fair value hierarchy which reflects the significance of the inputs used to make the measurements. The fair value hierarchy have the following levels:

Level 1 represents those assets which are measured using unadjusted quoted prices in active markets for identical assets.

Level 2 applies inputs other than quoted prices that are observable for the assets either directly (i.e. as prices) or indirectly (i.e. derived from prices).

Level 3 applies inputs which are not based on observable market data.

Figures in Rand	Note(s)	2025	2024 Restated*
Level 1			
JSE listed shares		596 380	582 315
Financial assets at cost			
Nominal value of financial assets at cost			
Financial asset Shareholding in wine co-operations		93 540	93 540

25. PAYABLES FROM EXCHANGE TRANSACTIONS

Figures in Rand	Note(s)	2025	2024 Restated*
Trade payables		71 478 178	50 467 734
Payments received in advanced - contract in process		217 156 829	344 742 940
Other payables		228 439 931	150 500 939
Accrued leave pay		63 526 569	59 101 264
		580 601 507	604 812 877

*Included in other payables are expenditure accruals.

The ageing of trade payables

Current	48 702 563	2 377 664
Up to 60 days	15 222 528	45 894 109
90 days	2 074 412	1 147 554
91 - 120 days	(3 473 455)	289 872
121 - 150 days	8 935 810	758 475
	71 461 858	50 467 674

26. EMPLOYEE BENEFIT OBLIGATIONS

DEFINED BENEFIT PLAN

The Post-Retirement Medical Benefits (PRMB) is governed by the Pension Fund Act 24 of 1956.

The actuarial valuation determined that the post-employment medical benefit plan was in a sound financial position. The plan is a post-employment medical benefit plan.

26. EMPLOYEE BENEFIT OBLIGATIONS (CONTINUED)

POST RETIREMENT MEDICAL AID PLAN

This includes current and past employees of the ARC who are currently members of the medical aid fund. Membership to the fund is voluntary.

The Council attempted to restructure the defined medical aid scheme, in terms of which the ARC had obligations to provide certain post-retirement medical aid benefits to ARC pensioners in terms of ARC service conditions, by renegotiating the benefit structuring from a medical subsidy to a guaranteed income (pension). ARC currently has no continuation members with effect from 1 April 2004.

The scheme is actuarially valued on an annual basis. The effective date of the most recent actuarial valuation was 31 March 2025. At that date, in the opinion of the actuary, the defined benefit plan was found to be in a sound financial position. The projected unit credit method has been used for the purpose of determining the actuarial valuation. Change in currency or interest rate result in an insignificant change in the plan obligation.

The following table summarises the components of the net benefit expense recognised in the statement of financial performance and amounts recognised in the statements of financial position as at 31 March 2025. The obligation is fulfilled as employees exit this fund.

CARRYING VALUE

Figures in Rand	Note(s)	2025	2024 Restated*
Present value of the defined benefit obligation-wholly unfunded		(9 618 648)	(9 589 828)
Changes in the present value of the defined benefit obligation are as follows:			
Opening balance		9 589 828	10 228 452
Benefits paid		(2 492 649)	(1 462 493)
Net expense recognised in the statement of financial performance		2 521 469	823 869
		9 618 648	9 589 828
Net expense recognised in the statement of financial performance are as follows:			
Service cost		243 978	291 838
Interest cost		1 123 093	1 162 367
Actuarial (gains) losses		1 154 398	(630 336)
		2 521 469	823 869
Calculation of actuarial gains and losses			
Actuarial (gains) losses – Obligation		1 154 398	(630 336)
Key assumptions used			
Assumptions used at the reporting date:			
Actual return on plan assets		12.40 %	13.20 %

26. EMPLOYEE BENEFIT OBLIGATIONS (CONTINUED)

The discount rate that reflects the time value of money is best approximated by reference to market yields at the reporting date on zero-coupon government bonds. We have used the average nominal yield curve for zero-coupon SA Government bonds with duration between 10 and 15 years as at 31 March 2025.

The source of the data is the Johannesburg Stock Exchange through IRESS data service.

No allowance has been made for future increases in the current subsidy amounts. Medical inflation was therefore set at 0%. The basis on which the discount rate has been determined is as follow:

The nominal and zero curves as at 31 March 2025 supplied by the JSE were used to determine the discount rates and CPI assumptions

The PA90 ultimate mortality table (rated downwards by 3 years) was used in the valuation for the mortality of Continuation Members.

SENSITIVITY ANALYSIS

HEALTHCARE COST TRENDS

Assumed healthcare cost trends rates have a significant effect on the amounts recognised in surplus or deficit. A one percentage point change in assumed healthcare cost trends rates would have the following effects:

ONE PERCENTAGE POINT INCREASE

Figures in Rand	Note(s)	2025	2024 Restated*
Effect on the service cost		1 277 853	1 358 857
Effect on interest cost		(822 842)	945 287

Amounts for the current and previous four years are as follows:

	2025	2024	2023	2022	2021
Defined benefit obligation	9 618 648	9 589 828	10 228 452	11 533 555	11 228 000

DEFINED CONTRIBUTION PLANS

It is the policy of the entity to provide retirement benefits to all its employees. A number of defined contribution provident funds, all of which are subject to the Pensions Fund Act exist for this purpose.

The entity is under no obligation to cover any unfunded benefits.

Figures in Rand	Note(s)	2025	2024 Restated*
The total economic entity contribution to such schemes		49 384 304	46 222 419
The amount recognised as an expense for defined contribution plans is		18 294 065	17 274 394

Included in defined contribution plan information above, is the following plan(s) which is the ARC Pension Fund (option D) and the ARC Provident Fund.

26. EMPLOYEE BENEFIT OBLIGATIONS (CONTINUED)

ARC PENSION FUND (OPTION D)

Under the ARC Act, the Agricultural Research Council has established its own pension fund, the ARC Pension Fund on 1 April 1992, to provide retirement benefits for employees who were transferred from the Department of Agriculture to the then newly formed Agricultural Research Council. All employees who are appointed on an indefinite basis, is required to become a member of either the ARC-Pension Fund or the NEHAWU National Provident Fund.

The ARCPF is administered by Alexander Forbes. The Fund is defined contribution fund and members is receiving the benefits provided for the rules of the ARCPF on resignation, dismissal, retrenchments, retirement or death.

ARC PROVIDENT FUND

The ARC become a participating employer of the NEHAWU National Provident Fund on 1 November 1997. All employees who are appointed on an indefinite basis will be required to become a member of either the ARC-Pension Fund or the NEHAWU National Provident Fund (NNPF).

The NNPF is administered by SANLAM. The Fund is a defined contribution fund and members is receiving the benefits provided for the rules of the ARCPF on resignation, dismissal, retrenchment, retirement or death.

27. UNSPENT CONDITIONAL GRANTS AND RECEIPTS

Figures in Rand	Note(s)	2025	2024 Restated*

Unspent conditional grants and receipts comprises of:

Unspent conditional grants and receipts

Foot and Mouth Disease ("FMD") vaccines facility	458 615 672	469 754 676

Movement during the year

Balance at the beginning of the year	469 754 676	478 371 220
Income recognition during the year	(11 139 004)	(8 616 544)
	458 615 672	469 754 676

Of the R535.55m allocated by National Treasury for the FMD project, R458.61m has yet to be spent. The ARC has started ring-fencing the funds during the financial year ended 31 March 2020 and will continue to ensure that the adequate cash reserves are reserved for funding of the future work on the FMD at year end.

These amounts are invested in a ring-fenced investment until utilised.

28. SHARE CAPITAL / CONTRIBUTED CAPITAL

Figures in Rand	Note(s)	2025	2024 Restated*
Issued			
Ordinary		111 986 013	111 986 013

The capital fund represents the cost of land when the ARC was transferred out of the Department of Agriculture, Land Reform and Rural Development (formerly Department of Agriculture, Forestry and Fisheries).

29. REVALUATION RESERVE

Figures in Rand	Note(s)	2025	2024 Restated*
Opening balance		962 230 468	962 230 468
Change during the year		271 582 505	-
		1 233 812 973	962 230 468

The land of the entity was revalued during the year based on independent professional valuations carried out by an accredited valuer. These valuations are determined based on the combination of the direct comparable sales approach and the depreciated replacement cost valuation method (see note 20).

30. ACCOUNTING BY PRINCIPALS AND AGENTS

The entity is a party to a principal-agent arrangement(s).

Details of the arrangement(s) are as follows:

ARC is the proprietor of certain plant varieties wherein SANSOR is appointed to collect royalties on behalf of the ARC. The entity is the principal. SANSOR is the designated authority to manage and execute all functions pertaining to seed certification on behalf of government.

Eris Property Group (Pty) Ltd acts on behalf of the ARC in managing leased properties, including lease administration, rent collection, and maintenance coordination, while ARC retains overall control and recognises all rental income. Eris receives a commission for the services rendered.

30. ACCOUNTING BY PRINCIPALS AND AGENTS (CONTINUED)

Entity as principal

Resources (including assets and liabilities) of the entity under the custodianship of the agent

The resources have not been recognised by the agent in its financial statements.

There are no cost implications for the entity if the principal-agent arrangement is terminated. The arrangement may be terminated by either party subject to three months' notice.

Fee paid

Figures in Rand	Note(s)	2025	2024 Restated*
Fee paid as compensation to the agent		746 112	393 898

31. TAXATION

Reconciliation of the tax expense

The ARC is exempt from Income Tax in terms of section 10(1)(a) of the Income Tax Act no. 58 of 1962.

32. CASH (USED IN) GENERATED FROM OPERATIONS

Figures in Rand	Note(s)	2025	2024 Restated*
Surplus		184 268 434	299 101 800
Adjustments for:			
Depreciation and amortisation		75 469 048	82 750 860
Gain on sale of assets and liabilities		50 571 054	15 022 020
Loss on foreign exchange		264 320	2 449 423
Fair value adjustments		(14 066)	(100 255)
Impairment deficit		6 264 089	3 731 033
Movements in operating lease assets and accruals		180 515	381 067
Movements in retirement benefit assets and liabilities		(1 125 578)	(8 288)
Actuarial gain or losses		1 154 398	(630 336)
Gain on biological assets		3 177 618	(4 746 112)
Inventory losses or write-downs		(5 177 073)	(167 303)
Changes in working capital:			
Inventories		7 213 438	5 861 906
Receivables from exchange transactions		(706 233 536)	(102 638 560)
Prepayments		(17 280 720)	(18 099 786)
Payables from exchange transactions		(28 191 555)	219 656 582
VAT		49 756 293	(12 796 542)
Unspent conditional grants and receipts		(11 139 004)	(8 616 544)
		(390 842 325)	481 150 965

33. FINANCIAL INSTRUMENTS DISCLOSURE

CATEGORIES OF FINANCIAL INSTRUMENTS

2025

FINANCIAL ASSETS

	At fair value	At amortised cost	At cost	Total
Other financial assets	596 380	-	93 540	689 920
Trade and other receivables from exchange transactions	-	872 521 001	-	872 521 001
Cash and cash equivalents	-	965 059 607	-	965 059 607
	596 380	1 837 580 608	93 540	1 838 270 528

FINANCIAL LIABILITIES

	Total
Trade and other payables from exchange transactions	347 239 724

2024

FINANCIAL ASSETS

	At fair value	At amortised cost	At cost	Total
Other financial assets	582 315	-	93 540	675 855
Trade and other receivables from exchange transactions	-	171 898 307	-	171 898 307
Cash and cash equivalents	-	1 550 036 245	-	1 550 036 245
	582 315	1 721 934 552	93 540	1 722 610 407

FINANCIAL LIABILITIES

	Total
Trade and other payables from exchange transactions	114 477 343

34. COMMITMENTS

Figures in Rand	Note(s)	2025	2024 Restated*

AUTHORISED CAPITAL EXPENDITURE

Already contracted for but not provided for

• Buildings	4 361 207	182 142
• Computer equipment	60 918 501	271 679
• Computer Software	3 331 225	-
• Infrastructure	15 745 181	7 937 105
• Laboratory equipment	24 264 082	76 108 145
• Machinery and farming equipment	10 486 272	5 232 817
• Motor Vehicle	5 836 440	-
• Office furniture and equipment	1 630 803	55 837
• Office Furniture & Fittings	-	414 033
• WIP : Buildings	16 789 746	-
• WIP : Laboratory Equipment	61 081	-
• WIP : Machinery and farming equipment	654 925	-
• WIP : Office Furniture	32 609	-
	144 112 072	90 201 758

TOTAL CAPITAL COMMITMENTS

Already contracted for but not provided for	144 112 072	90 201 758

TOTAL COMMITMENTS

Total commitments

Authorised capital expenditure	144 112 072	90 201 758

OPERATING LEASES - AS LESSEE (EXPENSE)

Minimum lease payments due

- within one year	2 515 239	2 543 091
- in second to fifth year inclusive	2 020 273	3 572 082
	4 535 512	6 115 173

ARC leases certain of its equipment in terms of operating leases. The ARC does not have the option to acquire the assets at the termination of the lease. There are no escalation or renewal terms clauses or restrictions imposed by the leases. The ARC is not charged any contingent rentals.

35. CONTINGENCIES

The guarantees on municipal and electrical accounts relate to the City of Tshwane municipality to ensure a continued service to the ARC Onderstepoort Veterinary Institute.

Legal costs and litigations relate to the nature of the ARC's business, agreements with complex deliverables may be entered into. All necessary steps are taken to manage the risks inherent to these transactions. If and when it is evident that there is a reasonable probability that a dispute on a transaction could lead to costs against the ARC, such costs will be disclosed.

Figures in Rand	Note(s)	2025	2024 Restated*
Guarantees on municipal and electricity accounts		1 075 360	1 075 360
*Legal costs and litigations		33 232 484	32 767 580
Pending labour disputes		1 600 000	800 000
		35 907 844	34 642 940

Case of City of Tshwane v ARC – The ARC is defending a claim arising from an incorrect measurement of electricity consumed at one of its campuses, caused by a misconfiguration of the prepaid meter installed by the applicant. Attempts by the ARC to resolve the matter amicably have been unsuccessful, and the ARC is awaiting the City of Tshwane to set down the matter for hearing. Legal costs will be incurred, and the ARC could be liable to pay the claimed amount of R31,682,483.61 should the applicant succeed.

Case of Biogold and Citrogold v ARC and Citrocom – ARC is defending an application to review and set aside the decision to grant a licence to commercialise some of the ARC's fruit varieties. The ARC will incur legal expenses in defending the matter, estimated at R1,000,000.

Case of ARC v Maheso – ARC instituted a claim to recover losses due to a former employee's unlawful use of petrol cards and illegal leasing of ARC property for personal gain at the Brits research farm. The ARC will incur legal expenses in instituting the claim, amounting to R300,000.

Case of ARC v Madutlela – ARC instituted a claim to recover losses arising from a former employee's unlawful usage of petrol cards at the Rustenburg campus. The ARC will incur legal expenses in instituting the claim, estimated at R500,000.

Case of ARC v Illegal Land Grabbers of Farm 1345, East London – ARC issued an eviction application against illegal land grabbers and unlawful occupiers. The ARC will incur legal expenses in instituting the matter, estimated at R200,000.

Case of Owoeye v ARC – ARC is defending a Labour Court review application brought to set aside a CCMA award dismissing the employee. The ARC will incur legal expenses in defending the matter, estimated at R400,000.

Case of ARC v Illegal Land Grabbers of Farms 853, 857 and 871, East London Road – ARC issued an eviction application against illegal land grabbers and unlawful occupiers of the said farms. The ARC will incur legal expenses in instituting the matter, estimated at R300,000.00.

Case of Chaba v ARC – ARC is defending a Labour Court review application to set aside a CCMA award dismissing the former employee. The ARC will incur legal expenses in defending the matter, estimated at R400,000.

Case of Oppierandjie Boedery v Mudau – ARC is the third respondent in an eviction application launched by an ARC tenant at its Musina farm. The ARC will incur legal expenses in the matter, estimated at R50,000.

35. CONTINGENCIES (CONTINUED)

RETENTION OF SURPLUS FUNDS

In terms of section 53(3) of the PFMA, constitutional institutions and public entities listed in schedule 3A and 3C to the Public Management Act (PFMA), 1999 may not accumulate surpluses that were realised in the previous financial year without obtaining prior written approval of the relevant Treasury.

In terms of paragraph 3.2 of the National Treasury instruction no. 12 of 2020/21, surplus is based on the net assets. A request for surplus retention will be submitted to the National Treasury based on the audited financial statements.

Figures in Rand	Note(s)	2025	2024 Restated*
		Controlling entity	
Cash and Cash Equivalents at end of the year (#)		965 059 607	1 550 036 245
Add: Receivables		872 521 001	171 898 307
Less: Current Liabilities		(645 854 216)	(620 309 293)
Subtotal		1 191 726 392	1 101 625 257
Less: Deferred Income Grant (Ringfenced)		(458 615 672)	(469 754 676)
Net Surplus/ (Deficit) after taking into account conditional grants		733 110 720	631 870 583

(#) the Cash and Cash Equivalents includes the funds relating to the Conditional Grant for Foot and Mouth Disease (FMD) vaccine facility. The FMD and Exotic Disease and Wild Suide facility liability (disclosed under Non-Current Liabilities) had a balance of R458 615 672 as at 31 March 2025 (2024: R469 754 676).

The CAPEX commitments for the ARC of R144 112 072 are also to be funded from the cash surpluses retained.

CONTINGENT ASSETS

ARC issued a claim to recover losses to the amount of R3 820 496, due to the former employees' unlawful usage of ARC petrol cards and unlawful leasing of ARC property for personal gain at the Brits Research Farm and Rustenburg campus. According to entity's legal advisors, it is probable that the proceedings will result in the recovery of the full amount.

36. RELATED PARTIES

RELATIONSHIPS

Ultimate controlling entity	Department of Agriculture, Land Reform and Rural Development
Controlling entity	Department of Agriculture, Land Reform and Rural Development
Public entity - (Under common control with the ARC)	Agricultural Land Holding Account
Public entity - (Under common control with the ARC)	KwaZulu-Natal Ingonyama Trust Board (ITB)
(Under common control with the ARC)	National Agricultural Marketing Council Public entity
(Under common control with the ARC)	Office of the Valuer-General
Public entity - (Under common control with the ARC)	Onderstepoort Biological Products
Public entity - (Under common control with the ARC)	Perishables Products Export Control Board Public entity
(Under common control with the ARC)	Registration of Deeds Trading Account Public entity
(Under common control with the ARC)	South African Veterinary Council

RELATED PARTY BALANCES

The ARC is a Schedule 3A national public entity in terms of the Public Finance Management Act (Act No. 1 of 1999 as amended) and therefore falls within the national sphere of government. As a consequence, the ARC has a significant number of related parties being entities that fall within the national sphere of government.

Such transactions are for the research that the ARC performs from time to time. All such transactions are concluded on an arm's length basis.

The ARC reports to Department of Agriculture, Land Reform and Rural Development (DALRRD). Amounts disclosed below as related parties relates to the parent department, Department of Agriculture, Land Reform and Rural Development (DALRRD) and entities within DALRRD.

The ARC occupies land portions and associated immovable assets owned by the Department of Public Works and Infrastructure in Roodeplaat and Pretoria free of charge.

AMOUNTS INCLUDED IN TRADE RECEIVABLE (TRADE PAYABLE) REGARDING RELATED PARTIES

AgriSETA	5 351 116	5 351 116
Department Of Agriculture Forestry And Fisheries (new DALRRD)	-	5 545 740
Director of Veterinary services	32 953	94 065
Department of education	-	41 882
Department Of Public Works	167 067	100 308
Department of Agriculture, Land reforms and Rural development	784 911 028	93 502 747
Department of Rural development and Land Reform	3 907 604	3 907 604
Onderstepoort Biological Products	-	838 658
National Research Foundation	436 088	825 058
Water Research Commission	1 673 701	1 534 003
South African Bureau Of Standards	10 500	10 500
South African Weather Service	150 474	240 664
Onderstepoort Biological Products	2 356 688	(10 570)
Department of Agriculture, Land reforms and Rural development (PIA)	-	(980)
National Health Laboratory Services	34 707	-

These are government grants received that will be recognised in future accounting periods. Recognition in future periods will be in line with reporting standards and determined by construction work on the facilities concerned.

COMMITMENTS WITH RELATED PARTIES

Figures in Rand	Note(s)	2025	2024 Restated*
Department of Agriculture, Forestry and Fisheries - FMD		(458 615 672)	(469 754 676)

36. RELATED PARTIES (CONTINUED)

PROVISION FOR DOUBTFUL DEBTS RELATED TO OUTSTANDING BALANCES WITH RELATED PARTIES

Figures in Rand	Note(s)	2025	2024 Restated*
AgriSETA		421 350	366 391
Department of Agriculture, Forestry and Fisheries (new DALRRD)		-	114 624
Department of Agriculture, Land Reform and Rural Development		-	3 907 604
Director Of Veterinary Service		-	62 385
Department of Public Works and Infrastructure		87 205	81 609
Water Research Commission		-	130 436
South African Weather Services		130 847	94 602
South African Bureau of Standards		9 130	9 130
Onderstepoort Biological Products		19 254	11 181
Department of rural development and land reform		3 907 604	-
National Health Laboratory Services		21 180	-
National Research Foundation		299 257	-

EXPENSES RECOGNISED IN RESPECT OF BAD OR DOUBTFUL DEBTS

Figures in Rand	Note(s)	2025	2024 Restated*
AgriSETA		(54 959)	5 010 103
Department of Agriculture, Forestry and Fisheries (new DALRRD)		114 623	(114 624)
Department of Public Works and Infrastructure		(5 597)	(8 834)
Department of Rural Development and Land Reform (new DALRRD)		-	737
Director of Veterinary Service		62 385	(62 385)
Water Research Commission		130 436	(128 262)
South African Weather Services		(36 245)	(49 026)
Department of Rural, Environmental and Agricultural development		-	66 698
Onderstepoort Biological Products		(8 073)	(11 181)
National Health Laboratory Services		(21 180)	-
National Research Foundation		(299 257)	-

36. RELATED PARTIES (CONTINUED)

REMUNERATION OF MANAGEMENT

MANAGEMENT CLASS: COUNCIL

2025

Name	Fees for services as a member of management	Total
Ms JS Isaacs (Chairperson)	287 403	287 403
Mr GS Gcaba	391 641	391 641
Dr KB Liphadzi	286 153	286 153
Dr CPN Malan	225 060	225 060
Dr PJ Mokaila	254 725	254 725
Ms CE Simpson	311 206	311 206
Mr NH Masithela	251 474	251 474
Dr PT Govender	248 880	248 880
Dr OPM Horwood	212 808	212 808
Dr J Tshipa	249 523	249 523
Dr H Maartens	150 713	150 713
	2 869 586	2 869 586

36. RELATED PARTIES (CONTINUED)

REMUNERATION OF MANAGEMENT

MANAGEMENT CLASS: COUNCIL

2024

Name	Fees for services as a member of management	Total
Ms JS Isaacs (Chairperson)	366 411	366 411
Dr JM Mashaba	126 956	126 956
Dr ST Cornelius	74 513	74 513
Prof. PW Mashela	60 072	60 072
Dr SAM Van Oorsterhout	79 747	79 747
Mr GS Gcaba	309 044	309 044
Miss N Maharaj	67 056	67 056
Dr KB Liphadzi	288 388	288 388
Proff NJJ Oliver	101 312	101 312
Proff. RMB Auerbach	52 773	52 773
Dr CPN Malan	226 816	226 816
Dr PJ Mokaila	284 608	284 608
Mr NH Masithela	186 422	186 422
Dr PT Govender	181 651	181 651
Dr OPM Horwood	175 385	175 385
Dr J Tshipa	184 263	184 263
Dr H Maartens	183 564	183 564
Ms CE Simpson	157 974	157 974
	3 106 955	3 106 955

36. RELATED PARTIES (CONTINUED)

MANAGEMENT CLASS: EXECUTIVE MANAGEMENT

2025

Name	Basic salary	Other short term employee benefits	Post-employment benefits	Other benefits received	Total
Dr LL Magingxa	3 005 522	103 661	387 500	67 359	3 564 042
Mr AK Carim	2 359 559	47 546	299 936	2 904	2 709 945
Dr HW Vergotine	1 732 588	37 888	-	1 852	1 772 328
Dr TG Sethibe	2 076 938	58 372	209 302	7 911	2 352 523
Dr MA Magadlela	2 125 271	27 340	284 538	4 520	2 441 669
Dr P Chaminuka	1 501 509	-	80 509	62 917	1 644 935
Ms TR Mabirimisa	1 756 437	56 514	186 938	16 473	2 016 362
Dr YP Pakela-Jezile	1 826 598	-	-	14 876	1 841 474
	16 384 422	331 321	1 448 723	178 812	18 343 278

2024

Name	Basic salary	Other short term employee benefits	Post-employment benefits	Other benefits received	Total
Dr TG Sethibe	1 823 475	60 773	197 832	99 724	2 181 804
Mr AK Carim	2 211 082	60 606	283 500	7 501	2 562 689
Dr MA Magadlela	1 825 154	26 434	268 945	39 667	2 160 200
Dr HW Vergotine	299 370	-	-	-	299 370
Dr LL Magingxa	2 824 320	110 973	366 266	216 220	3 517 779
Dr N Motete	1 516 783	30 205	224 675	170 240	1 941 903
Ms B Muthuri	1 322 264	5 687	18 640	-	1 346 591
Dr P Chaminuka	667 919	-	-	-	667 919
	12 490 367	294 678	1 359 858	533 352	14 678 255

36. RELATED PARTIES (CONTINUED)

AUDIT COMMITTEE

2025

Name	Fees for services as a member of management	Total
Ms KG Mbonambi (Chairperson)	244 808	244 808
Dr JM Laubscher	150 214	150 214
Ms B Schutte	106 751	106 751
Ms AM Mokgabudi	88 665	88 665
	590 438	590 438

2024

Name	Fees for services as a member of management	Total
Ms KG Mbonambi (Chairperson)	167 317	167 317
Dr JM Laubscher	121 338	121 338
Mr VK Naicker	40 569	40 569
Ms B Schutte	78 968	78 968
Ms AM Mokgabudi	59 000	59 000
	467 192	467 192

37. PRIOR-YEAR ADJUSTMENTS

Presented below are those items contained in the statement of financial position, statement of financial performance and cash flow statement that have been affected by prior-year adjustments:

STATEMENT OF FINANCIAL POSITION

2024

	Note	As previously reported	Correction of error	Restated
Property, plant and equipment		2 008 582 306	21 523 039	2 030 105 345
Accumulated surplus	15	1 626 230 767	21 523 042	1 647 753 809
		3 634 813 073	43 046 081	3 677 859 154

STATEMENT OF FINANCIAL PERFORMANCE

2024

	Note	As previously reported	Correction of error	Restated
Depreciation and amortisation		(77 992 589)	(4 758 271)	(82 750 860)
Impairment loss		(14 045 884)	10 314 851	(3 731 033)
Surplus for the year		(92 038 473)	5 556 580	(86 481 893)

The following prior period errors adjustments occurred:

ERROR 1

During the current financial year, management discovered that impairment loss on property, plant and equipment, was not calculated correctly. As consequence, the prior year Impairment loss and, accumulated surplus were overstated and property, plant and equipment was understated. The error was corrected by restating the affected financial statements line items for prior period.

ERROR 2

During the current financial year, management discovered misstatement on completeness of property, plant and equipment. As consequence, the prior year depreciation and, property, plant and equipment were understated and accumulated surplus was overstated. The error was corrected by restating the affected financial statements line items for prior period.

38. CHANGE IN ESTIMATE

PROPERTY, PLANT AND EQUIPMENT

At the beginning of the current period, Management has revised the useful lives of the Property, Plant and Equipment based on the condition of the assets. The effect of this revision has decreased the depreciation charge for the current and future periods from R2 363 383 to R484 855.

39. RISK MANAGEMENT

FINANCIAL RISK MANAGEMENT

The entity's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk.

The Council has overall responsibility for the establishment and oversight of the entity's risk management framework..

The entity's risk management policies are established to identify and analyse the risks faced by the entity, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the entities activities.

The audit and risk committee oversees how management monitors compliance with the entity's risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the entity. The entity Audit and Risk Committee is assisted in its oversight role by Internal Audit. Internal Audit undertakes both regular and ad hoc review of risk management controls and procedures, the results of which are reported to the Audit and Risk Committee.

LIQUIDITY RISK

Liquidity risk is the risk that the entity will not meet its financial obligation as they become due.

The entity manages liquidity through effective management of working capital, capital expenditure and cash flow. Adequate cash reserves are maintained. The entity manages liquidity risk through forecasting as well as monitoring cash flows on a daily basis.

The following are maturities of financial liabilities. The amounts disclosed in the table are the undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

At 31 March 2025	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	347 239 724	-	-	-

At 31 March 2024	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Trade and other payables	114 477 343	-	-	-

39. RISK MANAGEMENT (CONTINUED)

CREDIT RISK

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The entity is exposed to credit risk from its operating activities (primarily trade receivables) and deposits with banks and financial institutions, and other financial instruments.

Trade receivables are presented net of an allowance for doubtful receivables. The ARC does not have any significant exposure to any other individual customer or counterparty.

The entity’s bank balances and cash are placed with high credit, quality financial institutions with no significant exposure to any one counterparty.

The carrying amounts of financial assets included in the statement of financial position represent the ARC’s maximum exposure to credit risk in relation to these assets. ARC does not hold collateral or any credit enhancements to cover its credit risk.

Financial assets exposed to credit risk at year end were as follows:

Credit risk consists mainly of cash deposits, cash equivalents, derivative financial instruments and trade debtors. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

Trade receivables comprise a widespread customer base. Management evaluated credit risk relating to customers on an ongoing basis. If customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the board. The utilisation of credit limits is regularly monitored. Sales to retail customers are settled in cash or using major credit cards. Credit guarantee insurance is purchased when deemed appropriate.

Financial assets exposed to credit risk at year end were as follows:

Figures in Rand	Note(s)	2025	2024 Restated*
Financial instrument			
Cash and cash equivalents		1 550 036 245	965 059 607
Trade and other receivables		171 898 307	872 521 001

MARKET RISK

INTEREST RATE RISK

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. the entity’s exposure to the risk of changes in market interest rates relates primarily to the entity’s cash and cash equivalents. Exposure to interest rate risk is monitored on a continuous and proactive basis.

39. RISK MANAGEMENT (CONTINUED)

CASH FLOW INTEREST RATE RISK

Financial instrument	Current interest rate	Due in less than a year	Due in one to two years	Due in two to three years	Due in three to four years	Due after five years
Cash in current banking institutions	5.75 %	119 004 582	-	-	-	-
36 month fixed deposits	7.50 %	846 055 025	-	-	-	-

INTEREST RATE SENSITIVITY

Surplus or deficit is sensitive to higher/lower interest income from cash and cash equivalents as a result of changes in interest rates. This analysis assumes that all other variables remain constant. The analysis is performed on the same basis for 2024.

Figures in Rand	Impact on surplus or deficit	
	2025	2024
Interest rates - increases by 50 basis points	4 825 298	7 750 181
Interest rates - decreases by 50 basis points	(4 825 298)	(7 750 181)
	-	-

FOREIGN EXCHANGE RISK

The entity does not hedge foreign exchange fluctuations.

The exchange rates were obtained from OANDA.com.

The entity is exposed to currency risk on sales and purchases that are denominated in a currency other than the functional currency of the entity. The currencies in which the Council primarily deals are US Dollars, British Pounds and Euros. No forward exchange contracts are taken out for these transactions. The Council consider the foreign currency risk to be insignificant.

EXCHANGE RATES USED FOR CONVERSION OF FOREIGN ITEMS WERE:

Figures in Rand	Note(s)	2025	2024 Restated*
USD		18.4199	18.8443
GBP		23.8269	23.7755
EURO		19.9439	20.3371

39. RISK MANAGEMENT (CONTINUED)

PRICE RISK

The entity is exposed to equity securities price risk because of investments held by the entity and classified on the consolidated statement of financial position either as available-for-sale or at fair value through surplus or deficit. The entity is not exposed to commodity price risk. To manage its price risk arising from investments in equity securities, the entity diversifies its portfolio. Diversification of the portfolio is done in accordance with the limits set by the entity.

The entity’s investments in equity of other entities that are publicly traded and are included in JSE all-share index.

The table below summarises the impact of increases/decreases of the indexes on the entity’s post-tax surplus for the year and on equity. The analysis is based on the assumption that the equity indexes has increased/decreased by 5% with all other variables held constant and all the entity’s equity instruments moved according to the historical correlation with the index:

Financial instrument	Impact on post tax surplus in Rand		Impact on other components of equity in Rand	
	2025	2024	2025	2024
JSE all-share	88 637	71 772	88 637	71 772

Post-tax surplus for the year would increase/decrease as a result of gains or losses on equity securities classified as at fair value through surplus or deficit. Other components of equity would increase/decrease as a result of gains or losses on equity securities classified as available-for-sale.

40. GOING CONCERN

The annual financial statements have been prepared on the basis of accounting policies applicable to a going concern. This basis presumes that funds will be available to finance future operations and that the realisation of assets and settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

41. EVENTS AFTER THE REPORTING DATE

The Council is not aware of any other significant matters or circumstances arising since the end of the financial year which needs to be reported as part of these financial statements.

42. IRREGULAR EXPENDITURE AND FRUITLESS AND WASTEFUL EXPENDITURE

Figures in Rand	Note(s)	2025	2024 Restated*
Irregular expenditure		5 669 142	22 132 370
Fruitless and wasteful expenditure		196 639	132 261
		5 865 781	22 264 631

CRIMINAL OR DISCIPLINARY STEPS TAKEN AS A RESULT OF LOSSES, IRREGULAR AND FRUITLESS AND WASTEFUL EXPENDITURE

During the current year, the investigations were finalised on some of the fruitless and wasteful expenditures incurred during current and prior years resulting in a recovery of R40 290. Refer to reconciling notes in the annual report.

There were possible transgressions identified in the current year for an amount of R5 669 142, which have been submitted to the internal audit for investigation and confirmation. At the time of reporting, line management were carrying out consequence management on all finalised investigations against officials who committed the offences. In all instances, no loss was suffered by the public entity.

43. SEGMENT INFORMATION

GENERAL INFORMATION

IDENTIFICATION OF SEGMENTS

The entity is organised and reports to management on the basis of three major functional areas: primary, secondary and tertiary educational services. The segments were organised around the type of service delivered and the target market. Management uses these same segments for determining strategic objectives. Segments were aggregated for reporting purposes.

Information reported about these segments is used by management as a basis for evaluating the segments' performances and for making decisions about the allocation of resources. The disclosure of information about these segments is also considered appropriate for external reporting purposes.

AGGREGATED SEGMENTS

The entity operates throughout the Gauteng Province in ten cities. Segments were aggregated on the basis of services delivered as management considered that the economic characteristics of the segments throughout Gauteng were sufficiently similar to warrant aggregation.

43. SEGMENT INFORMATION (CONTINUED)

SEGMENT SURPLUS OR DEFICIT, ASSETS AND LIABILITIES

2025

Revenue	Animal Sciences	Crop Sciences	Natural Resources and Engineering	Total
Revenue from non-exchange transactions	274 421 179	466 094 948	69 744 797	810 260 924
Revenue from exchange transactions	253 337 933	491 663 038	95 125 711	840 126 682
Interest revenue	122 164	671 049	4 487	797 700
Total segment revenue	527 881 276	958 429 035	164 874 995	1 651 185 306
Unallocated revenue				421 879 769
Entity's revenue				2 073 065 075

EXPENDITURE

Salaries and wages	256 293 874	418 473 751	79 628 847	754 396 472
Other expenses	214 894 503	365 377 860	82 085 009	662 357 372
Depreciation	19 223 038	44 435 532	5 033 267	68 691 837
Total segment expenditure	490 411 415	828 287 143	166 747 123	1 485 445 681
Total segmental surplus/(deficit)	37 469 861	130 141 892	(1 872 128)	165 739 625
Interest expense				20 537
Unallocated expenses				18 508 272
Entity's surplus (deficit) for the period				184 268 434

ASSETS

Segment assets	1 033 511 392	2 199 271 463	211 057 210	3 443 840 065
Unallocated assets				852 085 258
Total assets as per Statement of financial Position				4 295 925 323

LIABILITIES

Segment liabilities	623 545 227	229 328 783	22 933 176	875 807 186
Unallocated liabilities				238 281 350
Total liabilities as per Statement of financial Position				1 114 088 536

Following a change in the composition of its reportable segments, the corresponding items of segment information for earlier periods has been restated.

43. SEGMENT INFORMATION (CONTINUED)

2024

Revenue	Animal Sciences	Crop Sciences	Natural Resources and Engineering	Total
Revenue from non-exchange transactions	257 049 862	371 475 579	80 974 574	709 500 015
Revenue from exchange transactions	206 410 456	371 409 320	43 817 842	621 637 618
Interest revenue	84 661	-	-	84 661
Total segment revenue	463 544 979	742 884 899	124 792 416	1 331 222 294
Unallocated revenue			460 569 478	
Entity's revenue			1 791 791 772	

EXPENDITURE

Salaries and wages	240 643 838	355 422 305	74 305 291	670 371 434
Other expenses	177 241 969	247 282 047	45 933 646	470 457 662
Depreciation	18 854 026	38 502 900	5 059 978	62 416 904
Total segment expenditure	436 739 833	641 207 252	125 298 915	1 203 246 000
Total segmental surplus/(deficit)	26 805 146	101 677 647	(506 499)	127 976 294
Interest expense				36 002
Unallocated expenses				171 089 502
Entity's surplus (deficit) for the period				299 101 798

ASSETS

Segment assets	624 178 282 1	407 482 528	113 854 538	2 145 515 348
Unallocated assets				1 680 124 298
Total assets as per Statement of financial Position				3 825 639 646

LIABILITIES

Segment liabilities	662 232 629	291 854 183	29 683 945	983 770 757
Unallocated liabilities				115 883 041
Total liabilities as per Statement of financial Position				1 099 653 798

Following a change in the composition of its reportable segments, the corresponding items of segment information for earlier periods has been restated.

44. BBEE PERFORMANCE

Information on compliance with the B-BBEE Act is included in the annual report under the section titled B-BBEE Compliance Performance Information.

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