

Chairman's Report

18TH ANNUAL GENERAL MEETING OF THE SOUTHERN AFRICAN GRAIN LABORATORY NPC



MR. BOIKANYO MOKGATLE
CHAIRPERSON 2014/2015

Introduction

It is an honour to deliver the 18th Chairperson's Report of the SAGL for the financial year 2014/2015. Reliable quality control measurements at the different stages of the value chain are key to the success of the grain and oilseed industries in South Africa. Despite the right to adequate amounts of food as well as healthy and safe food, approximately 4.5 billion people in the developing world are exposed daily to contaminants through the consumption of their staple food. This confirms the need for accurate quality measurements on grain and associated products. These results direct agricultural research as well as formulate policies for science and technology.

The SAGL focusses on quality analyses to support research and development for effective marketing of South African grain and oilseeds in the interest of the South African Industry. This grain quality assurance is performed with funding from the Agricultural Trusts. Analytical tests according to globally recognised procedures and methods ensure that each test result is traceable to international standards. That way, results are reliable and accurate and quality data can be compared from year to year.

The quality of locally produced grain can be compared with imported grain over several seasons to provide useful information in developing strategies to improve local competitiveness.

In addition to the reference measurements performed for the South African industry, the SAGL also provides training and testing services for countries in the rest of Africa.

List of Contents

- ✓ Introduction
- ✓ Organogram & Committees
- ✓ Vision, Aim & Value Statements
- ✓ Core Business
- ✓ Marketing Initiatives
 - ✓ Presentations & Feedback
 - ✓ Popular Articles
 - ✓ Professional Affiliations
 - ✓ International Visitors
- ✓ Human Capital
 - ✓ New Appointments
 - ✓ Events at SAGL
 - ✓ External Training
- ✓ Training Presented
- ✓ Ring Tests Offered
- ✓ Accreditation & Awards
- ✓ Additional Audits
- ✓ Financial Position
- ✓ Fortification – Sensory Evaluation
- ✓ Conclusion
- ✓ Acknowledgements
- ✓ Advertisement

Crop Quality Reports





Ms. MARIANA PURNELL
EXECUTIVE COMMITTEE MEMBER



Mr. BOIKANYO MOKGATLE
CHAIRPERSON



Mr. DE WET BOSHOFF
VICE CHAIRPERSON

EXECUTIVE COMMITTEE MEMBERS

DR. CHRISTÉL COETZEE
PROCESSING

DR. WILLEM BOSHOFF
BREEDING: WHEAT

MR. KEVIN CLARKE
PROCESSING: WHEAT

MR. DEREK MATHEWS
PRODUCTION: WHEAT

DR. MARINDA VISSER
PRODUCTION: MAIZE

MR. GEOFF PENNY
BAKING

MR. MARCEL KOEKEMOER
BREEDING: MAIZE

MR. HANNES HAASBROEK
PRODUCTION: SOYBEAN

MR. JANNIE DE VILLIERS
ALTERNATE DIRECTOR FOR
DR. MARINDA VISSER

BOARD OF DIRECTORS 2014/2015



Ms. SYLVIA DU PREEZ
CUSTOMER LIAISON



Ms. PAULINA MODIBA
SENIOR ANALYST/QUALITY CONTROL



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TECHNICAL SPECIALIST



Ms. WIANA LOUW
GENERAL MANAGER



Ms. BEATRIX LÖTTER-MOOLMAN
IT SPECIALIST / PA TO THE GM



Ms. JOLANDA NORTJÉ
MANAGER LABORATORY



Ms. MARIE MEYER
MANAGER FINANCE

MANAGEMENT TEAM



DR. CORINDA ERASMUS
TECHNICAL SPECIALIST
PROJECT CONSULTANT

STAFF COMPONENT



Ms. ZANELE SKHOZANA
MAIZE TRUST INTERN



Ms. THABELANG MAPHALLA
WINTER CEREAL TRUST
INTERN

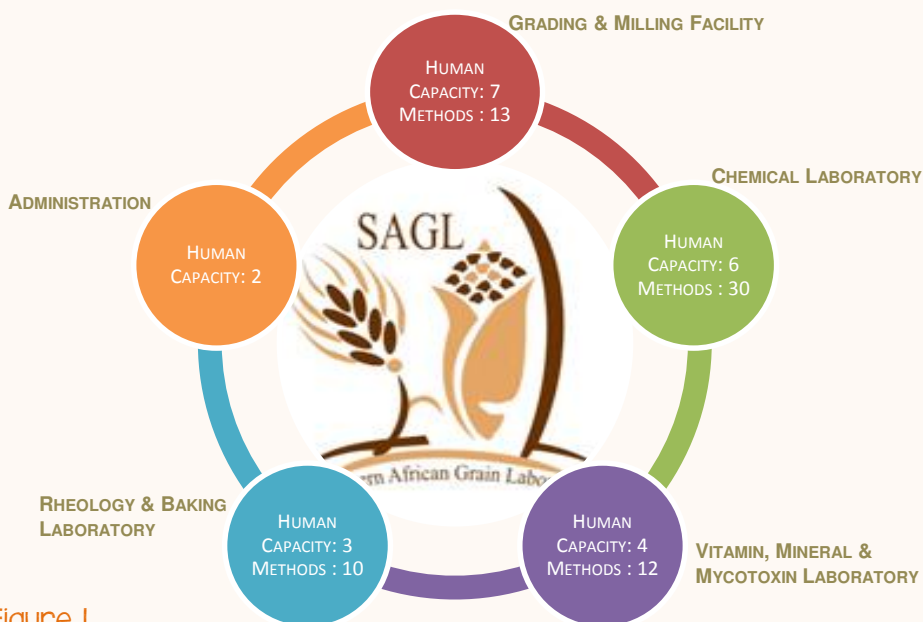


Figure 1

"Embrace your uniqueness. Time is much too short to be living someone else's life." ~ Kobi Yamada

COMMITTEES

Employment Equity Committee



Ms. MAMSY MOTLANTHE



Ms. MARIE MEYER
MANAGER FINANCE



Ms. WIANA LOUW
GENERAL MANAGER



Ms. LEBOGANG MALAHLELA



Ms. MAPHELA RAMARE



MR. THABANG NKODIMO

SAGL's transformation goals are clearly defined in the Employment Equity Plan. The members of the Employment Equity Committee received external training to complement the in-house training provided. The Employment Equity committee meetings are held on a regular basis and provide an opportunity to discuss issues with regards to the achievement of our set goals. At monthly personnel feedback meetings, the outcomes of the EE meetings are shared with the rest of the personnel.

Health & Safety Committee



Ms. MAMSY MOTLANTHE
CO-OPTED MEMBER OF
HEALTH & SAFETY TEAM



Ms. JULIA NTIMANE
FIRST AID OFFICER



Ms. WIANA LOUW
GENERAL MANAGER



Ms. DUDU MOLEKE
HEALTH & SAFETY
REPRESENTATIVE



Ms. GIANNI KRUGER
HEALTH & SAFETY
REPRESENTATIVE



MR. JAPHTHA MODISE
FIRE MARSHALL – FIRE
FIGHTING OFFICE



MR. LIEB BADENHORST
SUPERVISOR MILLING AND
PHYSICAL ANALYSES /
GRADER



Ms. HANNALIEN MEYER
TECHNICAL SPECIALIST



MR. DANIEL MSIZA
FIRST AID OFFICER



Ms. JOLANDA NORTJE
MANAGER LABORATORY



MR. JOHANNES MKASI
FIRE MARSHALL

The monthly Health and Safety Inspections conducted by the safety team are followed up with OHS team meetings. The members of the team received external training in combination with internal training sessions which are a standing item on the agenda of the monthly personnel feedback sessions.

"Ask me what is the greatest thing in the world, I will reply: It is people, it is people, it is people." ~ Maori Proverb

VISION, AIM & VALUE STATEMENTS

VISION To be recognized as market leader in grain analysis and related services in Southern Africa.

AIM To deliver accurate quality analyses to the grain industry

VALUE Accurate measurements, agricultural prosperity, social responsibility and good governance

CORE BUSINESS

As a service provider to the broader grain and oilseed industry, SAGL's testing services are aligned with the needs of these industries. The focus is on grain quality and functionality to ensure a consistent supply of grain compliant with customer specific requirements and functional products that perform reliably for the desired end use. SAGL interacts closely with the stakeholders in the grain and oilseed value chain to better understand the market requirements, such as quality, to maintain and increase access to markets and access to high-value markets. Collaborative research studies with tertiary education institutes and commercial processing companies are some of the ways in which we fulfil our mandate.

The 75 different testing methods included in the scope of testing are grouped into four categories illustrated in Figure 2.

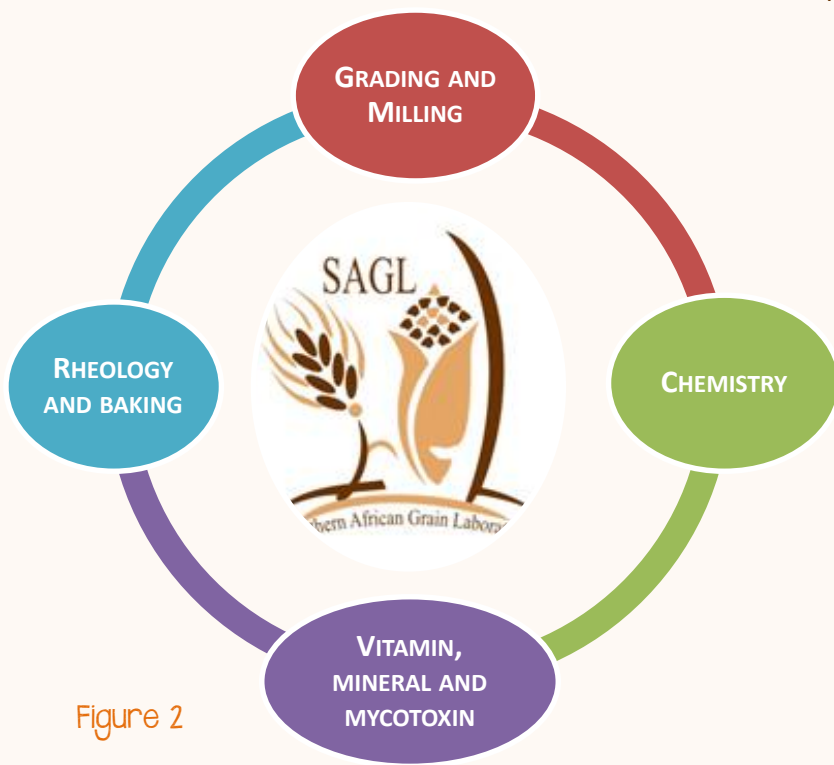
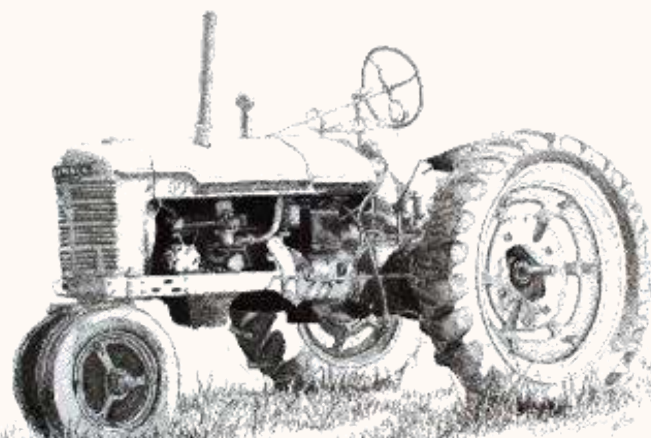


Figure 2



"Turn your face to the sun and the shadows fall behind you." ~ Maori Proverb

CORE BUSINESS

During the 2014/2015 financial year 48 990 analyses were performed in the four different testing categories compared to the 56 075 in the previous (2013/2014) financial year. SAGL serviced the needs of 270 customers, both locally and internationally during the 2014/2015 financial year. These customers represent different sectors of the grain and oilseed industry. The number of customers increased year-on-year although the number of analyses decreased.

The graph below (Figure 3) depicts the distribution of the number of analyses performed by the different laboratories over the past two financial years.

ANALYSES PER LABORATORY 2013/2014 vs 2014/2015

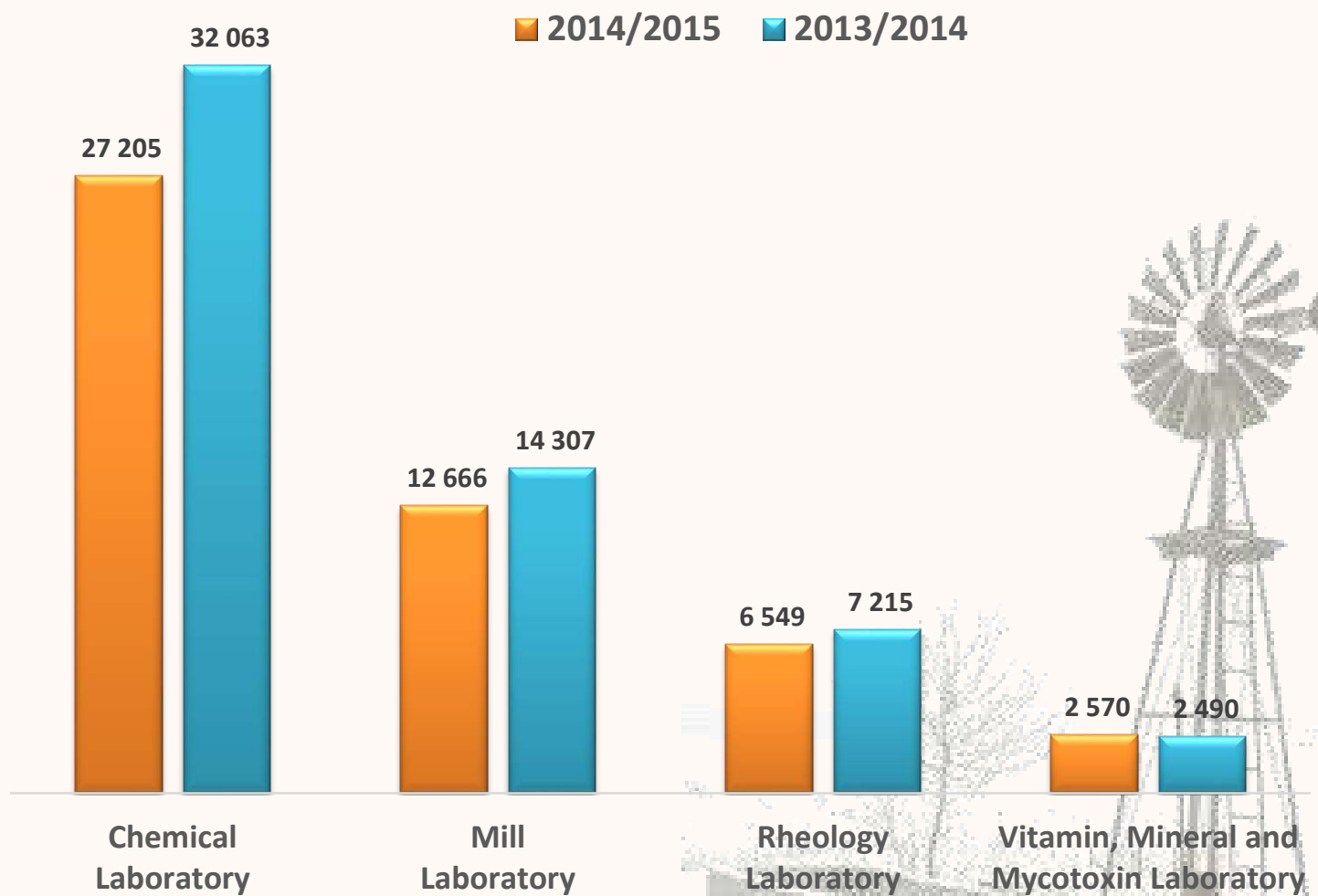


Figure 3

"Care for the land, Care for the people, Go forward." ~ Maori Proverb

Marketing Initiatives

Changes to the testing requirements for the registration of agro-chemicals under the *Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947* resulted in a request from role-players in this industry to investigate the option of establishing such a testing facility at the SAGL in line with the OECD Principles of GLP. Since the involvement in agrochemical testing activities was already identified as a new area to be investigated during a strategic planning session held during 2012, this opportunity to fill a gap in the market was actively explored. Different funding models for this expansion of the SAGL's testing capability are still being investigated.

SAGL successfully developed a range of quality tests to evaluate grain sorghum cultivars for processing applications. These tests to determine the grain quality characteristics were designed to simulate commercial processes to assist with the selection of the most suitable cultivars for these specific applications.

In February 2015, the Department of Agriculture, Forestry and Fisheries appointed the SAGL in terms of the Agricultural Products Standards Act, 1990 to be responsible for mycotoxin testing in grains and feedstuffs destined for exports.

The Southern African Trade Hub (SATH) funded by USAID, contracted the SAGL to perform assessments on various testing laboratories in Zambia, Malawi and Mozambique and to develop a training programme for delegates from these SADC countries with specific focus on grain grading and ISO 17025 compliance. The ten day training programme was presented during July 2015.

The National Department of Health contracted the SAGL with funding from the Global Alliance for Improved Nutrition (GAIN) to perform the analyses for the newly proposed fortified children's maize meal products.

SAGL received funding from the Sasol Agricultural Trust for a collaborative research project to investigate the effect of environmental and soil factors on the hardness of maize grown under dryland precision farming conditions.

With the financial support of the Maize Trust and the collaboration of AFMA and NCM, SAGL annually conducts a post storage mycotoxin survey on maize samples received for processing.

PRESENTATIONS & FEEDBACK

- Grain SA Maize Working Group Meeting (February & August 2015) – Data mining of 11 years Milling Index and Crop Survey Reports - Dr Corinda Erasmus & Wiana Louw
- Grain Quality Monitoring in Southern Africa, 21st Foss Grain Network Meeting (March 2015) – Grain quality monitoring in South Africa – Wiana Louw
- Cereal Science and Technology & South African Chamber of Baking Workshop – How to make friends with your miller (March & April 2015) – Wheat & Wheat flour analyses and factors affecting its reliability – Jolanda Nortjé
- African Mycotoxicology Symposium - Livingstone (May 2015):
 - Mycotoxin survey on South African produced maize over several seasons and production regions – Wiana Louw & Hannalien Meyer
 - Optimization of extraction method for fumonisins (free & hidden) in maize – Zanele Skhosana
- Agbiz Grain - Mini Symposium (August 2015) - Total Quality Management:
 - Maintaining grain quality standards and managing expertise – special focus on ring tests – Wiana Louw
 - Maize data-mining – quality trends in South Africa over the last 12 years – Dr Corinda Erasmus
 - The value of crop quality reports and the importance of providing correct samples to SAGL – Jolanda Nortjé
- Presentation at AVCASA Technical Committee Meeting (August 2015) - Establishment of an OECD GLP Accredited Pesticide Formulation Testing Facility – Wiana Louw

- Suidwes Landbou Streeksvergadering (September 2015) – Services to the Grain & Oilseeds industries in South Africa and beyond – Wiana Louw
- Wheat Forum and Sorghum Forum (October 2015) – Feedback on SAGL's work conducted on behalf of the Trusts – Wiana Louw

POPULAR ARTICLES

During the period under review eight articles were published in local publications:

- ✓ *The value of reliable analytical results to support the oilseeds industry*, Oilseeds Focus Magazine, April 2015
- ✓ *Data mining opens up new possibilities for identifying maize crop quality trends*, SA Graan/Grain, June 2015
- ✓ *A look at the maize crop quality of the 2013/2014 production season*, SA Graan/Grain, August 2015
- ✓ *A look at the soybean crop quality of the 2013/2014 production season*, SA Graan/Grain, September 2015
- ✓ *A look at the sunflower crop quality of the 2013/2014 production season*, SA Graan/Grain, October 2015
- ✓ *An overview of the local wheat crop quality of the 2014/2015 production season*, SA Graan/Grain, November 2015
- ✓ *Preliminary Soybean and Sunflower crop quality results for the 2014/2015 season*, Oilseed Focus, October/November 2015
- ✓ *Wheat Crop Quality of the 2014/2015 production season*, Wheat Focus, October/November 2015

"Don't limit a child to your own learning, for he was born in another time." ~ Rabindranath Tagore

PROFESSIONAL AFFILIATIONS

SAGL is represented on the following committees/associations:

- ✓ CST-SA: Cereal Science and Technology
- ✓ AFMA: Animal Feed Manufacturers Association
- ✓ SAAFoST: South African Association for Food Scientists
- ✓ GOSA: Grain Handling Organisation of South Africa
- ✓ ChromSA: Chromatographic Society of South Africa
- ✓ Wheat Focus Editorial Committee
- ✓ IAOM: International Association of Operative Millers in the the Middle East & Africa
- ✓ NLA: National Laboratory Association of South Africa
- ✓ SAAMS: South African Association for Mass Spectrometry
- ✓ AgriLASA: Agri Laboratory Association of South Africa
- ✓ Campden BRI (UK's largest independent membership-based organisation carrying out research and development for the food and drinks industry worldwide)
- ✓ Technical Committees of the Winter Cereal Trust
- ✓ Maize Trust Mycotoxin Research Review Panel
- ✓ Co-opted for specific discussion points at the Technical Committees of the Animal Feed Manufacturers Association (AFMA), National Chamber of Milling (NCM) and National Chamber of Baking (SACB)



INTERNATIONAL VISITS / DELEGATIONS

- Van Hoan Nguyen & Kumarie Naidoo, from the World Food Programme's Procurement Division in Rome, Italy - 11 June 2015.
- Jacob Mwale, the Executive Director of ZAMACE, Zambia - collaboration with USAID & SATH - 23 June 2015.
- Betina Guszewski from LB Nuts in Apperzel, Germany - possible collaborative mycotoxin projects -30 June 2015.
- Pumla Dlamini, Technical Advisor for GAIN Southern Africa - 6 July 2015.
- Representatives from Brabender in Germany and South Africa - 6 July 2015.
- Lennart Flügge, Sales Southern Africa & Laurent Guerindon, Area Sales Director Africa & Middle East from Mühlechemie in Ahrensburg, Germany - 21 August 2015.

Human Capital

To compete and succeed internationally, an effective skills development programme is followed to ensure a highly skilled and motivated workforce at the SAGL. Central to SAGL's business initiatives is the attraction and retention of scarce technical and scientific skills.

SAGL gives special attention to in-house on-the-job training to improve the skills base. All the laboratory personnel received both in-house training and external training during the period under review.

As part of SAGL's efforts to increase the technical capability of the laboratory personnel, Ms. Lebogang Malahlela is financially supported to obtain her diploma in Analytical Chemistry.



MS. LEBOGANG MALAHLELA
ANALYST

NEW APPOINTMENTS

The addition of new grain and oilseed commodities to the laboratory's scope necessitated the creation of an additional grader position. Mr Ben van der Linde was appointed as a Grader based on his experience in the application of ISO 17025 requirements in a milling and grading laboratory.

During February 2015, Ms Kelebogile Mabe joined the chemistry laboratory team to fill a vacant Analyst position. She has experience in the field of food chemistry testing under the requirements of ISO 17025 in a technical signatory capacity.

As part of a collaborative research project with the Technical University of Tshwane (TUT), Mr Nemiah Mhembere worked on an Internship Programme at the SAGL as part of his B-Tech studies which he successfully completed during July 2015.

With the financial support of the Winter Cereal Trust (WCT) and the Maize Trust (MT), two students who finished their MSc studies at the University of Pretoria and the Technical University of Tshwane respectively are currently appointed on Internship Programmes at the SAGL. They are Thabelang Maphalla (WCT) and Zanele Skhosana (MT).



MR. BEN VAN DER LINDE
GRADER



MS. KELEBOGILE MABE
ANALYST



MS. ZANELE SKHOSANA



MS. THABELANG MAPHALLA



MR. NEMIAH MHEMBERE

*"All the knowledge I possess everyone else can acquire, but my heart is all my own."
~ Johann Wolfgang von Goethe*

Events at SAGL

SANTA SHOEBOX PROJECT – 24 OCTOBER 2014

The Santa Shoebox Project originated in Cape Town and has grown in leaps and bounds, with the number of Santa Shoeboxes increasing from a humble 180 boxes in 2006 to an astounding 109 930 in 2014. The boxes are distributed to more than 1 000 recipient facilities, through more than 60 satellites around South Africa and Namibia. The success of the Project can largely be attributed to its personal nature – donors give gifts to children whose names, ages and genders are known.

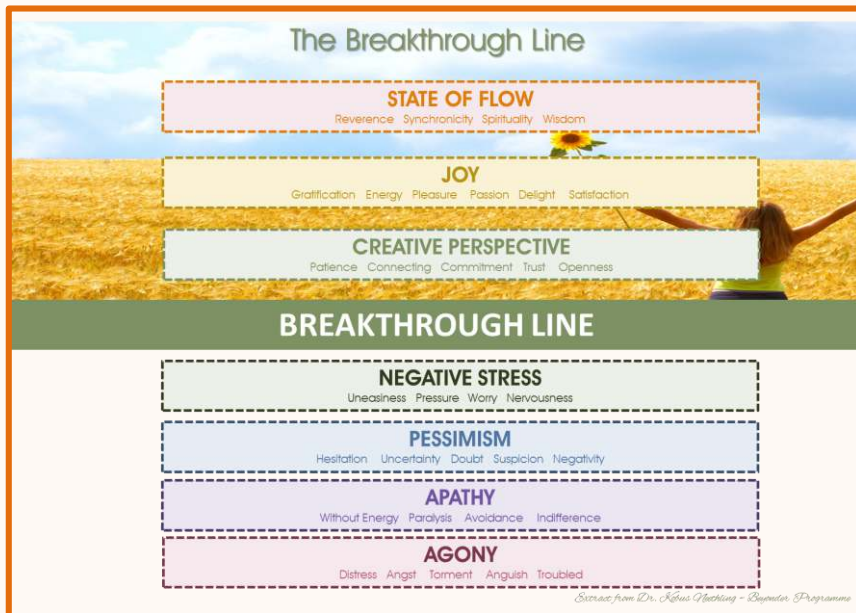
On the 24th of October 2014 we changed our Lab coats to 'little elf suits' in order to extend a helping hand to the wonderful team of the Santa Shoebox Project. Our elves went to the dedicated collection center where they checked the boxes of gifts which had been donated and then re-packed the boxes for distribution to the children.

To date the Santa Shoebox Project has distributed 456 004 shoeboxes throughout South Africa and Namibia. (www.santashoebox.co.za)



BEYONDER PROGRAMME

For our Yearend function we decided to do things a little bit differently. On Monday the 1st of December 2014 we all gathered at the CSIR for the Beyonder Programme which was facilitated by Dr. Kobus Neethling & Stephan Neethling. In the weeks leading to this event we all had to complete an online questionnaire in order for our NBI 4 Quadrant Brain Profiles to be prepared before the event. It was a wonderful learning experience enabling one to understand yourself better and to understand how your colleagues operate and how they could grow as individuals and as a team. From a team perspective this was an excellent exercise as it gave an in-depth insight into every employee and also showed how the various brain profiles impact on the daily tasks and activities and how they can be harnessed to improve.

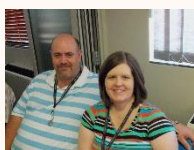


Quality is our Passion

Events at SAGL

LAST WORK DAY FOR 2014 - 24 DECEMBER 2014

We decided to end the year on a high note with traditional milk tart and tea. It was also a great opportunity to wish everyone a blessed festive season and to thank each and everyone for a wonderful and productive year.



NATIONAL HERITAGE DAY – 24 SEPTEMBER 2015

On the 23rd of September 2015 we celebrated our rich cultural diversity with colorful clothes, language, song and interesting traditional food!

"...when South Africans celebrate the diverse cultural heritage that makes up a "rainbow nation". It is the day to celebrate the contribution of all South Africans to the building of South Africa."

— Stephen Lowry (1995)



"Just living is not enough. One must have sunshine, freedom and a little flower." ~ Hans Christian Anderson

EXTERNAL TRAINING

External training courses, both technical and administrative, were carefully selected. Refer to Figure 4 below for the external training summary (2014/2015). The list below is an indication of some of the training events attended:

- ✓ Basic Conditions of Employment Act
- ✓ Basic Spreadsheet Training
- ✓ B-BBEE
- ✓ Consumer Protection Act
- ✓ Employment Equity
- ✓ HIV/AIDS in the Workplace
- ✓ Junior Management & Supervisor Training
- ✓ Labour Law in the Workplace
- ✓ Leadership & Mentoring
- ✓ Occupational Health & Safety
- ✓ Technical Writing Skills
- ✓ Grain analysis: Today and Tomorrow
- ✓ Reducing mycotoxins in food and feed in Africa
- ✓ Root cause analysis for laboratories

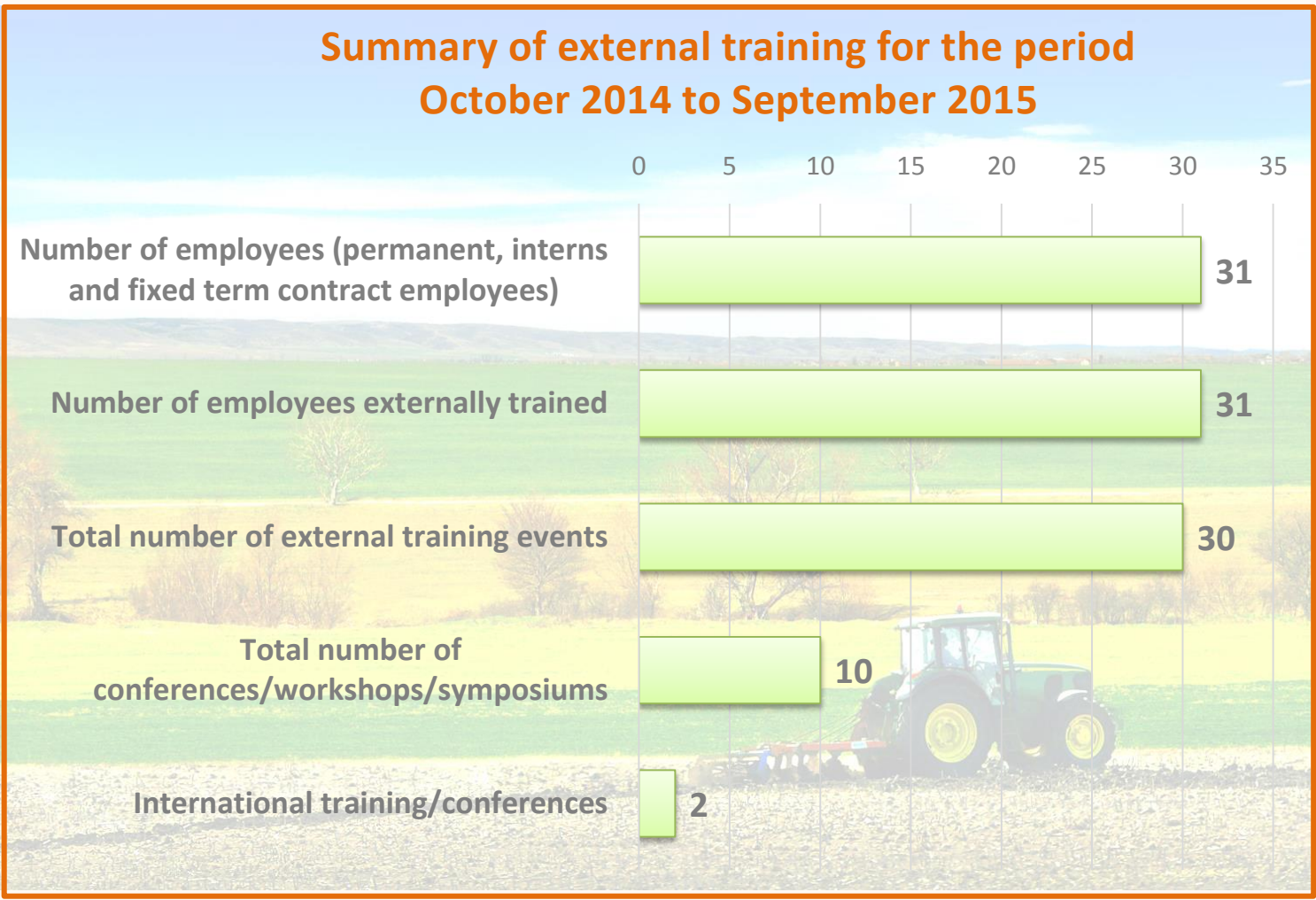


Figure 4: All 31 employees received external training during 2014/2015 at 30 different events. 10 local conferences and workshops were attended and 2 people attended 2 international conferences.

"Whenever you're confronted with an opponent, conquer him with love." ~ Mahatma Gandhi

TRAINING PRESENTED

The training courses presented at the SAGL are designed to address the specific needs of the participants from South Africa as well as from the rest of Africa. The training courses cover both theoretical aspects and hands-on practical training in the laboratory. The requirements of compliance with ISO 17025 accreditation and general good laboratory practices are emphasised in the training courses.

2 x 3 day Wheat and Flour training course

- Total: **8** trainees

1 x 1 day Wheat and Flour training course

- Total: **4** trainees

1 x 4 day Grading Course for Botswana Bureau of Standards (Sorghum and Maize)

- Total: **1** trainee

1 x 5 day US Wheat - Wheat and Flour training course

- Total: **12** trainees + **1** newly appointed employee of the SAGL

1 x 10 day Technical and Quality Related training course for USAID

- Total: **4** trainees + **1** Internship student from the SAGL



RING TESTS OFFERED

As the independent reference laboratory in South Africa for the grain and oilseed industry, SAGL offers ring tests to participants from South Africa and other countries in Africa.

The participants are testing service providers in the grain and oilseed industry who use these ring tests as independent assessments of their quality control measures to monitor equipment, personnel and analytical methods. Ring tests serve as a powerful tool for a laboratory or testing facility to demonstrate competency to stakeholders in the grain and oilseed sector. The ring tests offered by the SAGL are detailed in Figure 5 below.

Please refer to our website for the price list and to download the participant application form: www.sagl.co.za

MAIZE

WHEAT

1 ANNUAL PRE-HARVEST GRADING RING TEST

- ✓ **Product Type:** 250 g Maize
- ✓ **Interval:** Per Season
- ✓ **# Participants:** 26

2 MAIZE MEAL QUALITY RING TEST

- ✓ **Product Type:** 1 kg Super / Special Meal
- ✓ **Interval:** Quarterly
- ✓ **Types of Analysis:**
 - ✓ Speck count, Particle size, Moisture, Fat, Fibre, Protein, Ash and Whiteness Index
- ✓ **# Participants:** 4

3 MAIZE GRADING RING TEST

- ✓ **Product Type:** 250 g White / Yellow Maize
- ✓ **Interval:** Quarterly
- ✓ **# Participants:** 11

VITAMIN

1 VITAMIN RING TEST

- ✓ **Product Type:** (Subject to change)
 - ✓ Fortified Wheat Flour & Rice Flour
 - ✓ Fortified Maize Meal & Wheat Flour
 - ✓ Fortified Premix & Maize Meal
 - ✓ Fortified Maize Meal & Wheat Flour
- ✓ **Interval:** Quarterly
- ✓ **Types of Analysis:** Vitamin A
 - ✓ The following vitamins on request only: Pyridoxine HCL (Vitamin B6), Thiamine mononitrate (Vitamin B1), Nicotinamide (Vitamin B3), Riboflavin (Vitamin B2) and Folic Acid
- ✓ **# Participants:** 2



1

WHEAT & FLOUR RING TEST

- ✓ **Product Type:**
 - ✓ 2 kg Whole Wheat
 - ✓ 2.5 kg White Bread Flour
 - ✓ 250 g Brown Bread Flour
 - ✓ 50 g White Bread Flour
- ✓ **Interval:** Quarterly
- ✓ **Types of Analysis:**
 - ✓ **White Bread Flour:** Moisture, Colour, Falling number, RVA falling number equivalent, Protein, Ash, Starch damage, Wet gluten, Dry gluten, Gluten index, Farinograph, Alveograph, Consistogram, Extensigraph and Mixograph
 - ✓ **Whole Wheat Sample:** Hectolitre mass, Whole wheat moisture, Whole wheat flour-moisture, Protein, Falling number, RVA falling number equivalent, Wet gluten, Dry gluten and Mixograph
 - ✓ **Brown Bread Flour:** Bran content and Colour
- ✓ **# Participants:** 27

2 WHEAT GRADING RING TEST

- ✓ **Product Type:** 1,5 kg Whole Wheat
- ✓ **Interval:** Quarterly
- ✓ **# Participants:** 21

3 MINOLTA DRY COLOUR RING TEST

- ✓ **Product Type:**
 - ✓ 500 g White Bread Flour
 - ✓ 500 g Cake Flour
- ✓ **Interval:** Bi-Monthly
- ✓ **# Participants:** 8

4 KENT JONES COLOUR RING TEST

- ✓ **Product Type:**
 - ✓ 500 g White Bread Flour
 - ✓ 500 g Cake Flour
- ✓ **Interval:** Bi-Monthly
- ✓ **# Participants:** 7

SOYBEANS

1 ANNUAL PRE-HARVEST GRADING RING TEST

- ✓ **Product Type:** 500 g Soybeans
- ✓ **Interval:** Per Season
- ✓ **# Participants:** 60

Figure 5: Ring Tests Offered by the SAGL

Quality is our Passion

Accreditation

Accreditation under the International Organization for Standardization (ISO/IEC) 17025 is maintained. SANAS (South African National Accreditation System) conduct surveillance audits in an 18-month cycle to confirm the SAGL's compliance with the requirements of this international standard applicable to testing laboratories. Accurate and reliable analytical results are achieved through the maintenance of SAGL's accreditation status.

The next surveillance audit in the cycle is scheduled to take place during May 2016.

SAGL's participation in a wide range of international proficiency schemes serves as an ongoing proof of technical competence and is also a requirement to comply with ISO/IEC 17025.

Table 1 below illustrates the comprehensive range of test methods on different matrices covered to confirm traceability to international standards across the entire range of analyses offered by the SAGL to the industry.

Proficiency Service Provider	Frequency of Participation	Check sample	Matrix	Analysis	Accredited
American Association for Cereal Chemist International (AACCI) United States of America	6 times per year (Bi-monthly)	ALV	Wheat Flour	Moisture & Alveograph	✓
		B	Hard Wheat Flour	Moisture, Protein, Ash, Falling number & Diastatic activity*	✓
		D	Feed Samples	Moisture, Protein, Ash, Crude fat (EE) & Crude fibre	✓
		DF	Different Grain Based Matrices	Moisture & Total dietary fibre	✓
		HL	Hard Wheat Flour	Moisture & Farinograph	✓
		J	Wheat Flour	Moisture & Mixograph	✓
	VMP	Different Matrices	Moisture, Vitamins & Minerals	✓	
	12 times per year (Monthly)	SA	Different Matrices	Moisture & Sugar* (Fructose, Glucose, Sucrose, Maltose & Lactose)	
Bureau Interprofessionnel des Etudes Analytiques (BIPEA) France	10 times per year (Monthly from September to June)	2	Wheat Flour (Different types)	Moisture, Protein, Falling Number, Ash, Damaged starch*, Gluten (Wet & Dry)*, Gluten index* & Alveograph	✓
		25	Wheat Flour (Different types)	Moisture & Farinograph	✓
		31A & B	Different Matrices	Mycotoxins	✓
	5 times per year (Sept, Oct, Dec, Feb & Apr)	26	Amino Acids (Animal Feed)	Protein, Free & Protein bound amino acids*	
The Food and Environment Research Agency (FAPAS) United Kingdom	8 – 10 samples per year, irregular	No fixed codes	Various Mycotoxin Matrices	Mycotoxins	✓
	1 sample per year	No fixed codes	Milk Powder	Melamine	
	4 samples per year	No fixed codes	Bread Crumbs / Biscuits / Cereal/ Soybean Meal	Moisture, Ash, Nitrogen, Starch*, Total dietary fibre, Crude fat, Crude fibre* & Sodium	✓
AgriLASA	2 samples 6 times per year	No fixed codes	Various Feed Samples	Moisture*, Protein, Ash, Crude fat, Crude fibre, Starch* & Minerals	✓
CODA-CERVA (National Reference Laboratory Belgium)	1 sample per year	No fixed codes	Cereal Flour	Mycotoxins	✓

* Not accredited method.

ACCREDITATION CERTIFICATE - ISO 17025



CERTIFICATE OF ACCREDITATION

In terms of section 21(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 21(1), (2) and (3) of the said Act, I hereby certify that:-

SOUTHERN AFRICAN GRAIN LABORATORY NPC
Cin. Reg. No.: 1997/018518/08

Facility Accreditation Number: **T0116**

is a South African National Accreditation System accredited Testing laboratory provided that all SANAS conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying schedule of accreditation Annexure "A", bearing the above accreditation number for

CHEMICAL AND PHYSICAL ANALYSIS

The facility is accredited in accordance with the recognised International Standard

ISO/IEC 17025:2005

The accreditation demonstrates technical competency for a defined scope and the operation of a laboratory quality management system.

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS accreditation symbol to issue facility reports and/or certificates

R.J.
Mr R. Joubert
Chief Executive Officer
Effective Date: 01 November 2014
Certificate Expires: 31 October 2019

ANNEXURE A

SCHEDULE OF ACCREDITATION

Facility Number: T0116

Permanent Address of Laboratory: Southern African Grain Laboratory (NPC) Grain Building 477 Willemse Road The Willows 0040 Postal Address: Postnet Suite # 391 Private Bag X 1 The Willows 0041 Tel: (012) 807-4019 Fax: (086) 216-7872 E-mail: info@saglab.co.za	Technical Staff: Ms J. Nortje (AI) Ms M. Fourie (In-House Method 012) Ms M. Harnnes (Chemical) Ms E. Vorster (Rheological) Ms A. de Jager (Nutrients & Contaminants) Ms W. Louw (In-House Methods 001, 002, 003, 010, and 025) Ms D. Molebe (Rheological) Ms I. Torklanche (Rheological) Ms H. Meyer (Chemical, Nutrients & Contaminants and Grading) Ms J. Kruger (Chemical, excluding in-House Method 012) Mr L. Badenhorst (Grading) Ms P. Mubha (Chemical) Ms M. Mollathe (In-house method 001 & 003)															
Issue No.: 21 Date of Issue: 17 October 2014 Expiry Date: 31 October 2019	Nominal Representative: Ms S. du Preez Management Representative: Ms W. Louw															
<table border="1"> <thead> <tr> <th>Materials / Products Tested</th> <th>Type of Tests / Properties Measured, Range of Measurement</th> <th>Standard Specifications, Equipment / Technique Used</th> </tr> </thead> <tbody> <tr> <td>CHEMICAL</td> <td></td> <td></td> </tr> <tr> <td>Ground Barley</td> <td>Moisture (Oven Method)</td> <td>Analytical EBC Method 3.2, Latest Edition (2 hour, 130°C)</td> </tr> <tr> <td>Cereal and cereal products specifically: wheat, rice, (hulled paddy), barley, millet, rye and oats as grains, semolina and flour</td> <td>Moisture (Oven Method)</td> <td>ICC Std No 1101, Latest Edition (90 minutes, 130°C) (2 hour, 130°C)</td> </tr> <tr> <td>Flour, semolina, bread, all kind of grains and cereal products, and food products (except those that are sugar coated)</td> <td>Moisture (Oven method)</td> <td>AACCI 44-15.02, Latest Edition (1 hour, 130°C) (72 hour, 103°C)</td> </tr> </tbody> </table>	Materials / Products Tested	Type of Tests / Properties Measured, Range of Measurement	Standard Specifications, Equipment / Technique Used	CHEMICAL			Ground Barley	Moisture (Oven Method)	Analytical EBC Method 3.2, Latest Edition (2 hour, 130°C)	Cereal and cereal products specifically: wheat, rice, (hulled paddy), barley, millet, rye and oats as grains, semolina and flour	Moisture (Oven Method)	ICC Std No 1101, Latest Edition (90 minutes, 130°C) (2 hour, 130°C)	Flour, semolina, bread, all kind of grains and cereal products, and food products (except those that are sugar coated)	Moisture (Oven method)	AACCI 44-15.02, Latest Edition (1 hour, 130°C) (72 hour, 103°C)	
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Original Date of Accreditation: 01 November 1999

Page 1 of 3

J. Joubert
Field Manager

ANNEXURE A

Facility No.: T0116
Date of Issue: 17 October 2014
Expiry Date: 31 October 2019

Materials / Products Tested	Type of Tests / Properties Measured, Range of Measurement	Standard Specifications, Equipment / Technique Used
All flours, cereal grains, oilseeds and animal feeds	Nitrogen and protein (Combustion method - Dumas)	AACCI 46-30.01, Latest Edition
Food stuff	Dietary fibre (total)	In-House Method 012
Food stuff and feeds	Carbohydrates (by difference) (calculation) Energy value (calculation) Total digestible nutrition value (calculation)	SOP MC 23
Food stuff and feeds	Determination of ash	In-House Method 011
Wheat kernels	Moisture (Oven method)	Government Gazette Wheat Grading Regulation, Latest Edition (72 hour, 103°C)
Flours of grains, e.g. barley, oats, triticale, maize, rye, sorghum and wheat, oilseeds like soybeans and sunflower, feeds and mixed feeds and foodstuffs	Crude Fat (Ether extraction by Soxhlet)	In-House Method 024
Meal and flour of wheat, rye, barley, other grains, starch containing and malted products	Falling number	ICC No 1071, Latest Edition
NUTRIENTS & CONTAMINANTS		
Vitamin fortified food and feed products and fortification mixes grain based	Vitamin A as all trans Retinol (Saponification) (HPLC)	In-House Method 001
Vitamin fortified food and feed products and fortification mixes grain based	Vitamin B1 (HPLC) (HPLC) Riboflavin (HPLC) Nicotinamide (HPLC) Pyridoxine Hydrochloride (HPLC)	In-House Method 002
Vitamin fortified food and feed products and fortification mixes grain based	Folic Acid (HPLC)	In-House Method 003

Original Date of Accreditation: 01 November 1999

Page 2 of 3

J. Joubert
Field Manager

ANNEXURE A

Facility No.: T0116
Date of Issue: 17 October 2014
Expiry Date: 31 October 2019

Materials / Products Tested	Type of Tests / Properties Measured, Range of Measurement	Standard Specifications, Equipment / Technique Used
Grain based food and feed products (fortified and unfortified) and fortification mixes	Total sodium (Na) Total iron (Fe) Total zinc (Zn)	In-House Method 010
Food and feed	Multi-Mycotoxin: - Aflatoxin G ₁ , B ₁ , G ₂ , B ₂ and total - Deoxynivalenol (DON), 15-ADON - Fumonisin B ₁ , B ₂ - Ochratoxin A - T ₂ , HT-2 - Zearalenone	In-House Method 026
GRADING		
Maize	Defective kernels (white maize/yellow maize)	Government Gazette Maize Regulation, Latest Edition
Cereal as grains (wheat, barley, rye and oats)	Hectolitre mass (Ken222)	ISO 7971-3, Latest Edition
Wheat	Screenings	Government Gazette Wheat Grading Regulation, Latest Edition
RHEOLOGICAL		
Wheat flour	Alveograph (Rheological properties)	ICC No 121, Latest Edition
Flours	Farinograph (Rheological properties)	AACCI 54.02, Latest Edition (Rheological behaviour of Flour Farinograph Constant Flour Weight procedure)
Hard, soft and durum wheat, (flour and whole wheat flour)	Mixograph (Rheological properties)	Industry Accepted Method 020 (based on AACCI 54-40.02, Latest Edition Mixograph Method)

Original Date of Accreditation: 01 November 1999

Page 3 of 3

ISSUED BY THE SOUTHERN AFRICAN NATIONAL ACCREDITATION SYSTEM

J. Joubert
Field Manager

"It takes courage to grow up and become who you really are." ~ E.E. Cummings

ACCREDITATION CERTIFICATES & AWARDS

AFMA hereby certify that

Southern African Grain Laboratory NPC

complies with the following criteria of the AFMA Code of Conduct for the Manufacturing of Safe Compound Animal Feedstuffs

- ✓ All legal requirements in terms of Act 35 of 1984, Act 36 of 1947 and Act 101 of 1956 must be complied with.
- ✓ Animal Feed Manufacturers must meet the requirements of Good Manufacturing Practice (GMP) to ensure feed safety.
- ✓ Animal Feed Manufacturers must recognize the importance of a Food Safety Management System and adopt the relevant procedures.
- ✓ Technical animal feed recommendations and formulation must be carried out by qualified Animal Scientists that are registered with the South African Council for Natural Scientific Professions (Act 27 of 2003).
- ✓ Animal Feed Manufacturers must comply with the Basic Conditions of Employment Act.
- ✓ Animal Feed Manufacturers must promote the AgriBEE Act as laid down by the National Department of Trade and Industry.
- ✓ Animal Feed Manufacturers must comply with the Occupational Health and Safety Act.
- ✓ Animal Feed Manufacturers must comply with all relevant legal requirements so as to not bring the Industry, Association or its members into disrepute.
- ✓ Animal Feed Manufacturers' mills, must at a confirmed date be available for auditing for the conformance to the AFMA Code of Conduct by an accredited body which will be appointed by AFMA.
- ✓ Animal Feed Manufacturers will comply with the MAIN OBJECT of AFMA as stipulated in its Memorandum of Association - "The main object of the Company is to promote the interests of its members and those of the animal feeds industry and the community insofar as they relate to each other"

AFMA Chairperson
 AFMA Executive Director
 June 2015 - 2017
 Date

RECOGNITION OF ANALYTICAL PERFORMANCE

Analysis of Hard Wheat Flour

Southern African Grain Laboratory
Pretoria, SOUTH AFRICA

Achieved Outstanding Accuracy and Precision for the year 2014 in check samples including the following analyses:

Moisture, Protein, Ash
Falling Number

Executive Vice President
 President

RECOGNITION OF ANALYTICAL PERFORMANCE

Analysis of Mixograph

Southern African Grain Laboratory
Pretoria SOUTH AFRICA

Achieved Outstanding Accuracy and Precision for the year 2014 in check samples including the following analyses:

Moisture, Peak Time, Peak Height, 8-Minute Height, Descending Slope

Executive Vice President
 President

CERTIFICATE OF PARTICIPATION

This certificate is awarded to:

SOUTHERN AFRICAN GRAIN LABORATORY
THE WILLOWS - PRETORIA - SOUTH AFRICA

for its participation in BIPEA interlaboratory comparisons for the annual series 2013-2014.

May 14, 2014 - Gennevilliers France

BIPEA Member BIPEA Director

Certificate n° 13-14 / 11119

RECOGNITION OF ANALYTICAL PERFORMANCE

Analysis of Feed

Southern African Grain Laboratory
Pretoria SOUTH AFRICA

Achieved Outstanding Accuracy and Precision for the year 2014 in check samples including the following analyses:

Moisture, Protein, Ash, Crude Fiber, Crude Fat EE

Executive Vice President
 President

Financial Position

The annual financial statements were 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 the settlement of liabilities, contingent obligations and commitments will occur in the ordinary course of business.

The Directors believe that the company has adequate financial resources to continue in operation for the foreseeable future and accordingly the financial statements have been prepared on a going concern basis. The Independent Auditors' Report indicates no material inconsistencies between the Directors' Report and the audited financial statements.

Below are details on the financial position of the SAGL since the 2010/2011 financial year (Figure 6) and also the sources of revenue (Figure 7).

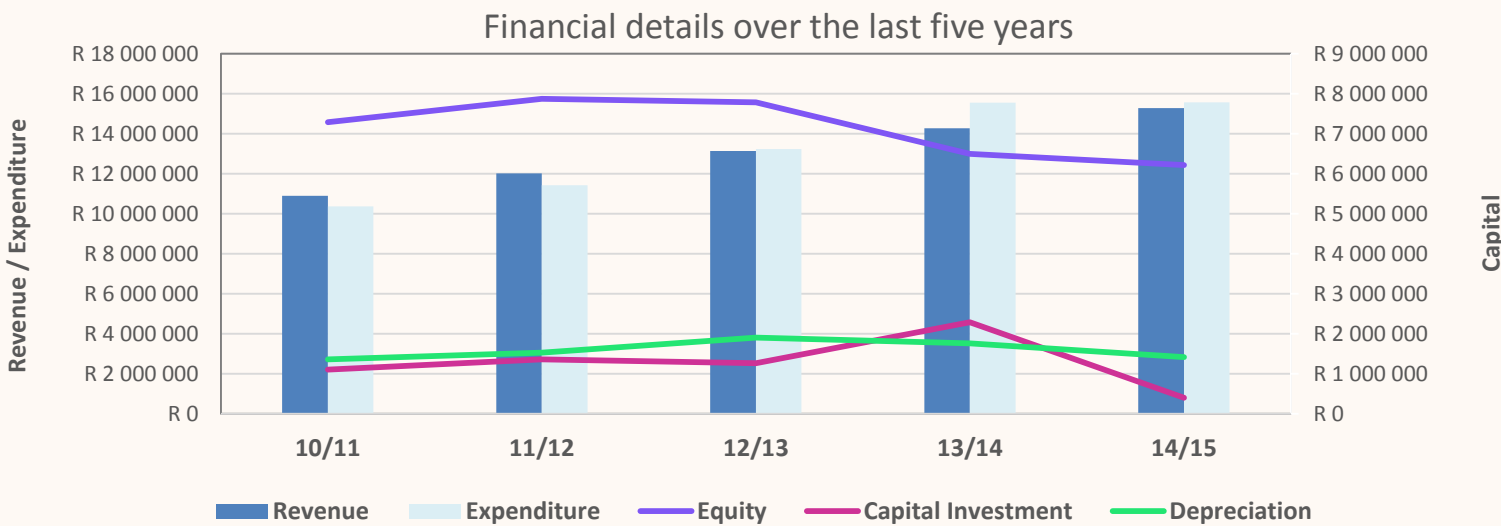


Figure 6

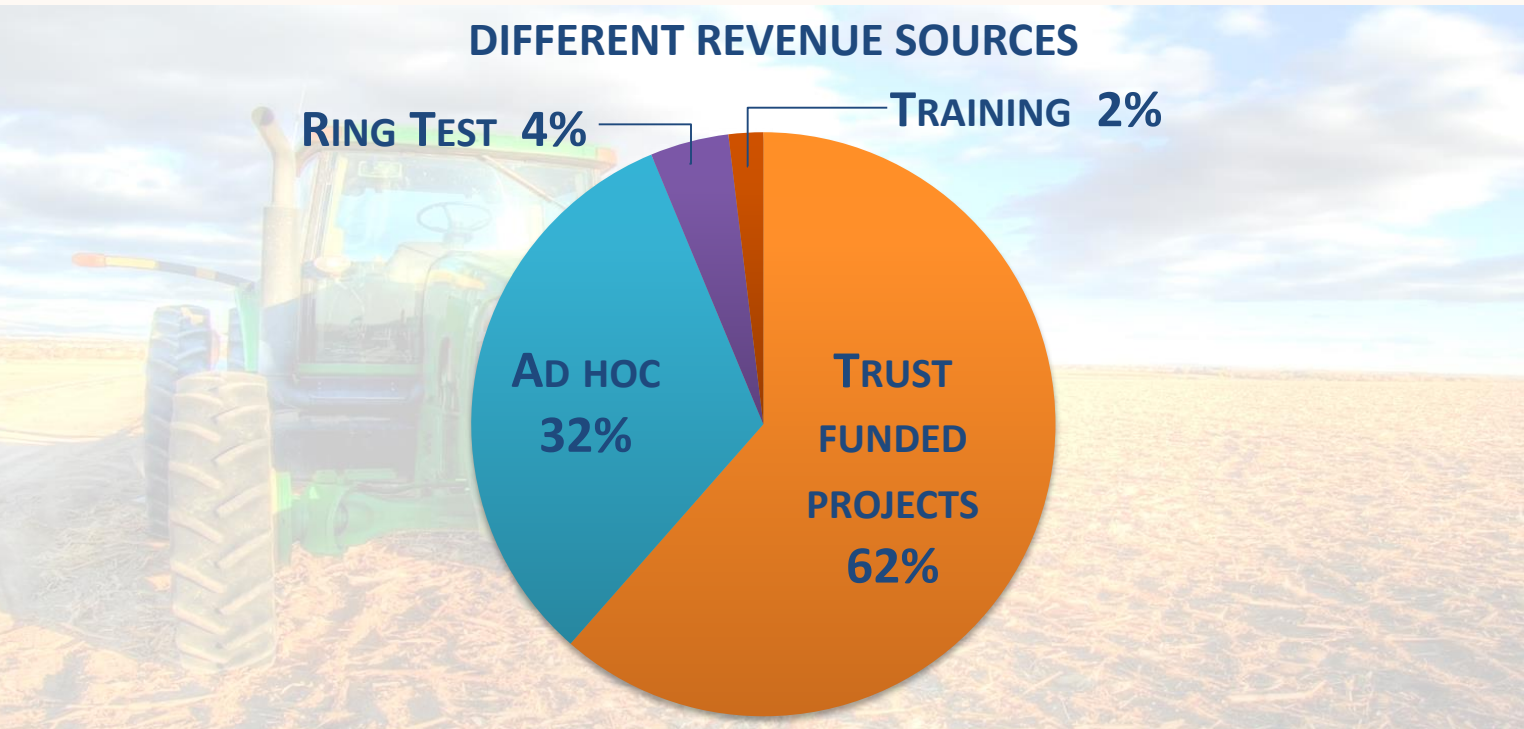


Figure 7

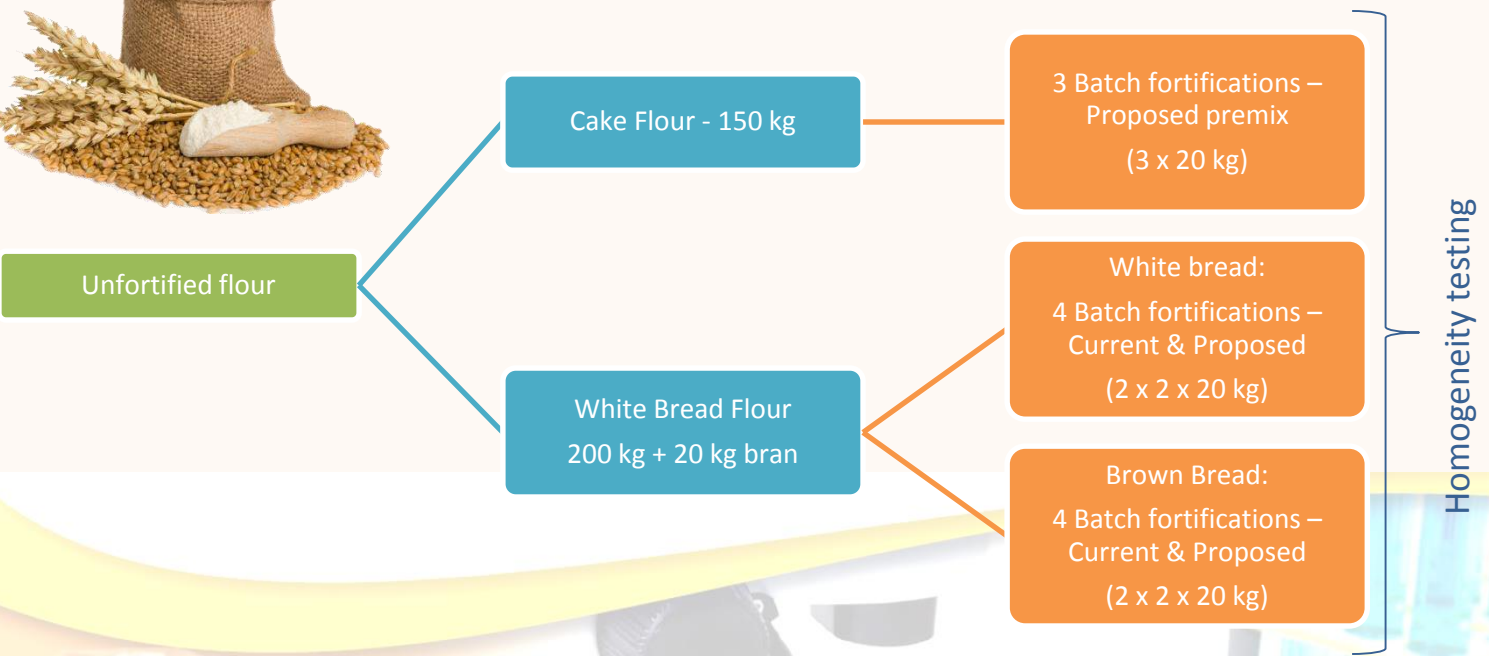
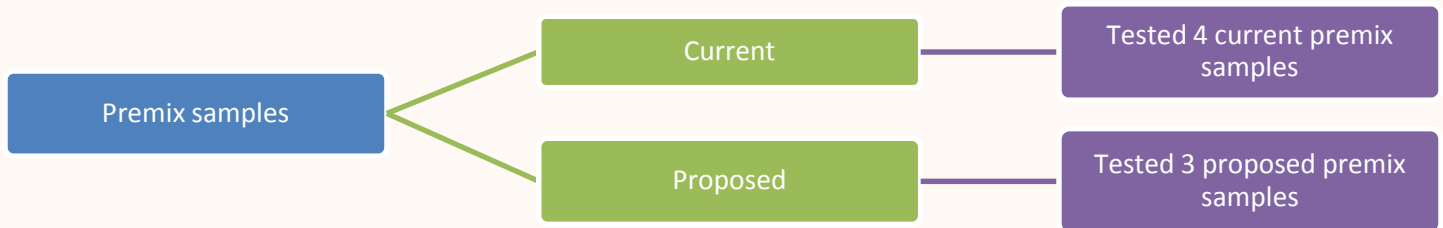
Fortification - Sensory Evaluation

The Department of Health (DOH), in collaboration with the relevant stakeholders in the Grain Industry, planned a project to conduct sensory evaluation of fortified cake, white bread and brown bread wheat flour and super and special maize meal. DOH is in the process of amending the SA Regulations for the fortification of certain foodstuffs. It will focus on improving the fortification mixture of micronutrient compounds for wheat flour and maize meal and include cake flour as one of the food vehicles.

Three sponsors, namely Global Alliance for Improved Nutrition (GAIN), the Maize Trust (via the National Chamber of Milling – NCM) and the Winter Cereal Trust (via the South African Chamber of Baking – SACB) agreed to sponsor the sensory evaluation of the proposed new fortification mixtures when added to the different food vehicles.

The SAGL participated in the project. All the research activities conducted by the SAGL with regards to the wheat and maize premixes and the food vehicles are summarised in the figures below.

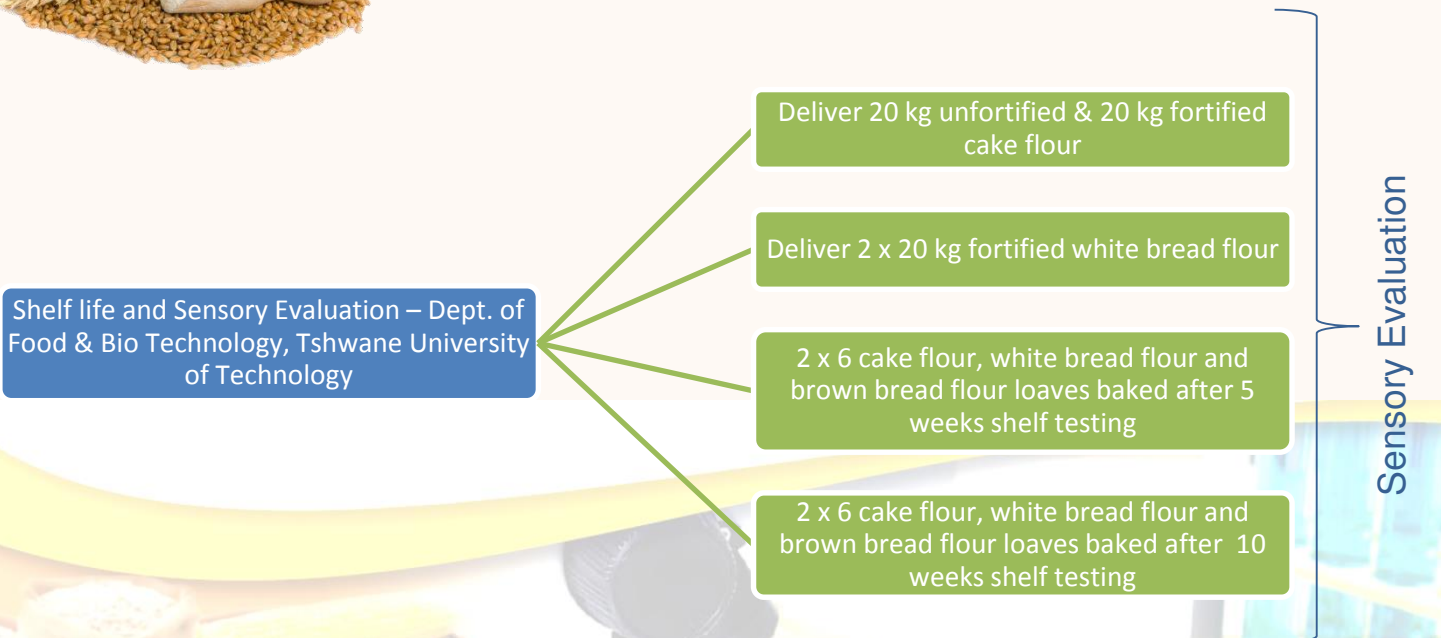
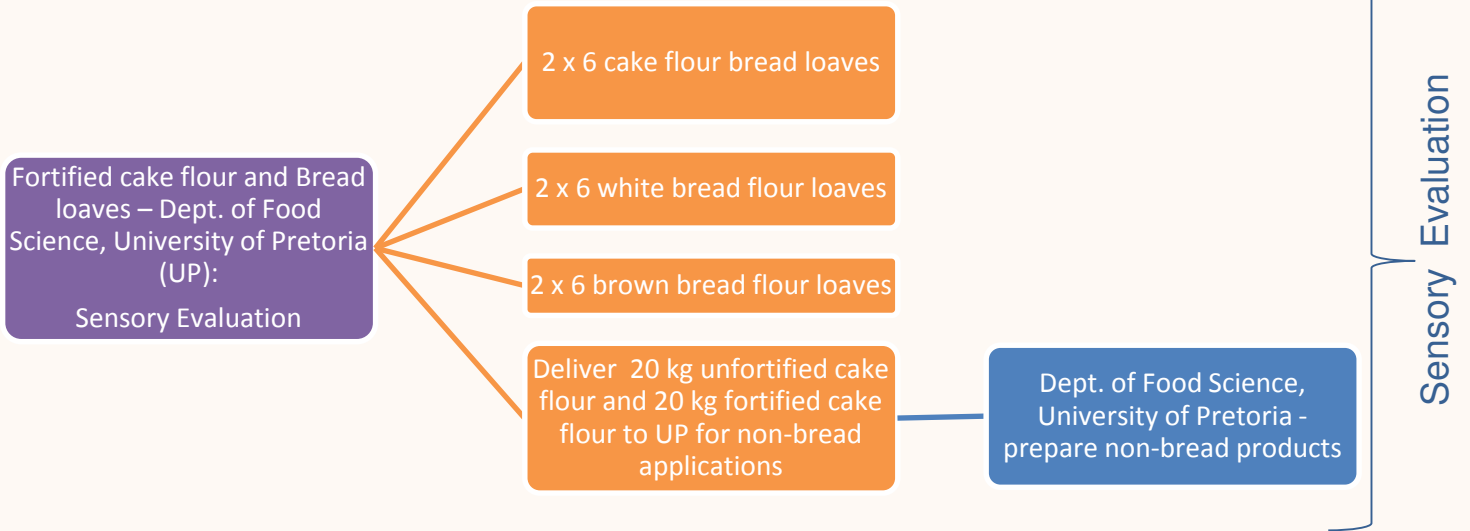
Wheat



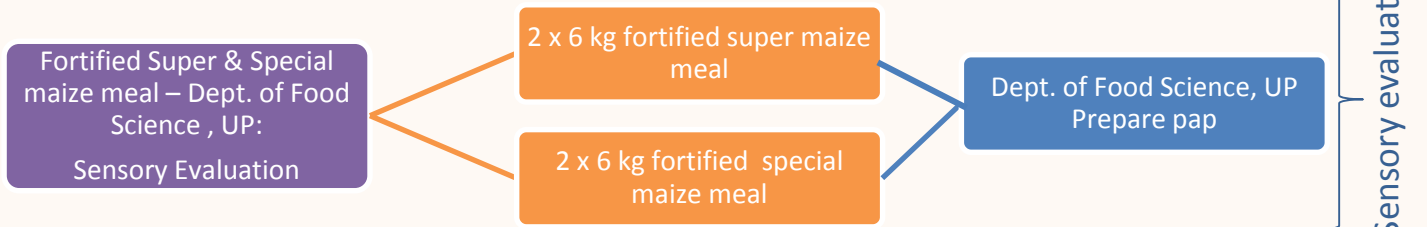
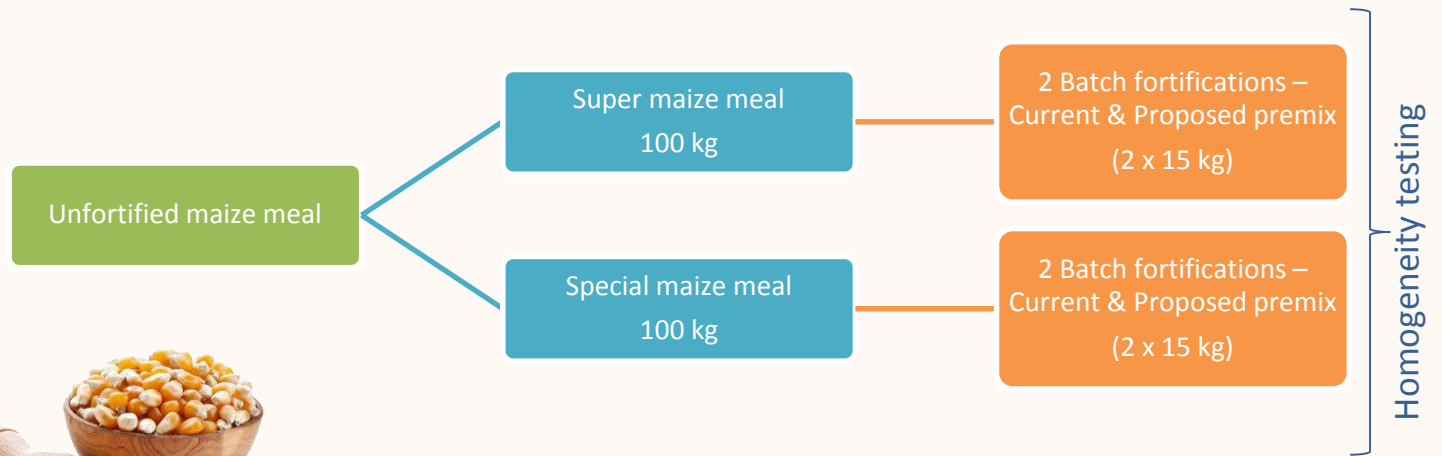
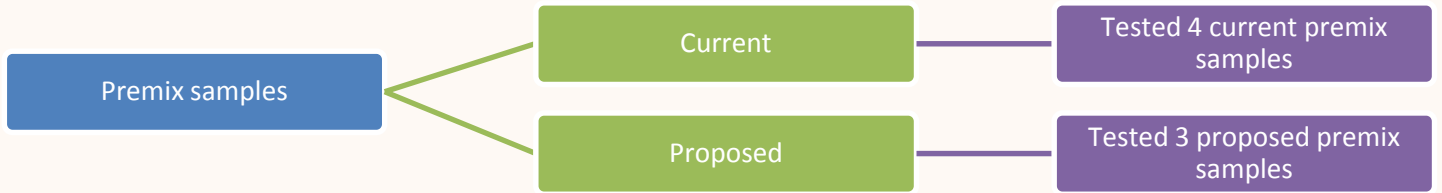
"Chocolate is cheaper than therapy and you don't need an appointment." ~ Catherine Aitken

Fortification - Sensory Evaluation

Wheat



Fortification - Sensory Evaluation Maize



Conclusion

By ensuring an operational structure and service profile aligned with the changing needs of the South African Grain and Oilseed Industry, SAGL once again confirmed its relevance and position as a reference laboratory of choice. SAGL remains focused on supporting the Grain and Oilseed Industry to ensure it is internationally competitive.

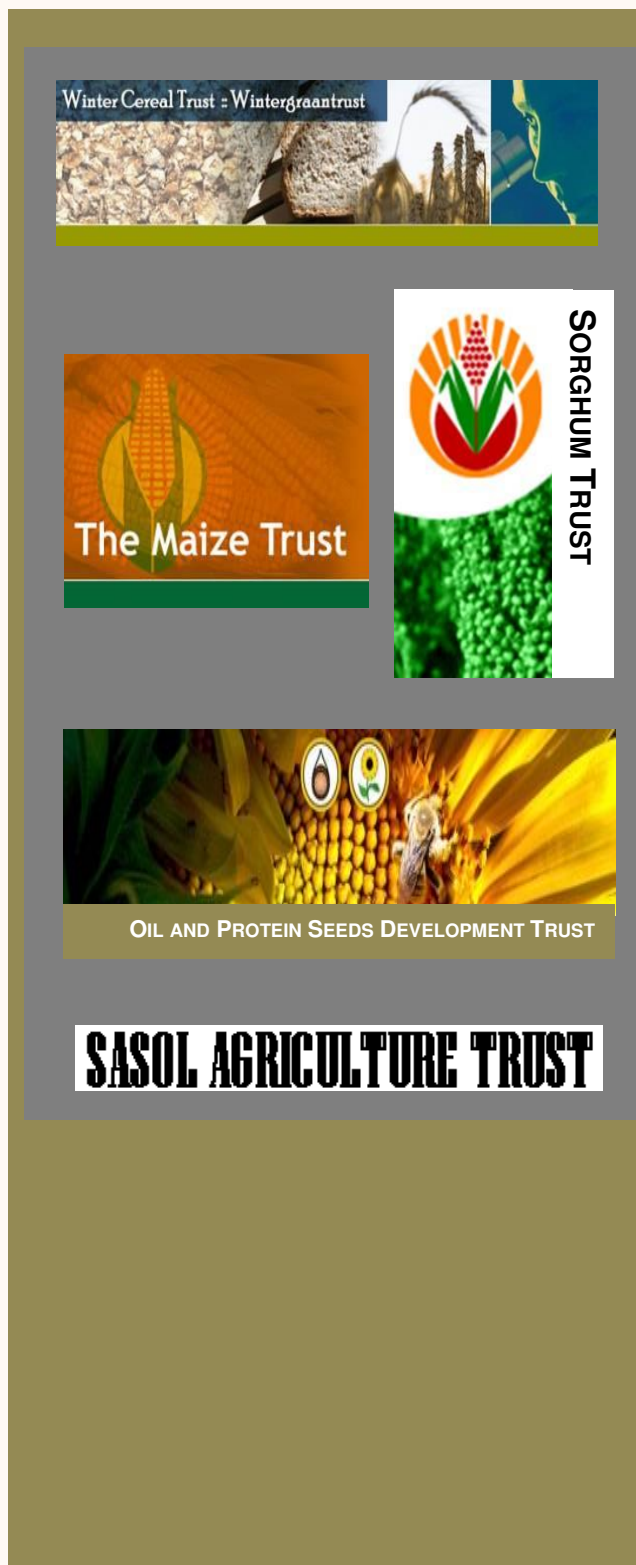
Acknowledgements

I would like to thank the Board of Directors for their support and commitment and in particular the Executive Committee, De Wet Boshoff and Mariana Purnell. I also would like to extend a special word of thanks to the SAGL management team for their specific inputs.

The dedication and level of excellence delivered by the Board, management team and the personnel of the SAGL made a significant contribution to the SAGL achieving its goals during the 2014/2015 financial year.

The results of everybody's contribution and hard work are reflected in this strong enterprise with real benefits to the Grain and Oilseed Industry in Southern Africa.

MR. BOIKANYO MOKGATLE
CHAIRPERSON 2014/2015



"When I started counting my blessings, my whole life turned around." ~ Willie Nelson

Quality is our Passion





The Southern African Grain Laboratory NPC

Quality is our passion

SAGL is an independent grain and oilseed testing laboratory with customers throughout Southern Africa. We strive to ensure the satisfaction of our customers by delivering accurate and reliable test results upon which informed decisions can be based. SAGL provides an excellent service on grain, oilseeds and products thereof (including foods, feeds and feedstuffs) at market related prices. We specialise in a wide range of analyses, including grading, milling, physical, chemical, rheological, baking and mycotoxin tests as well as macro- and micro-nutrients.

The laboratory implements ISO 17025 accredited test methods and operates within a comprehensive quality system. Participation in several international proficiency schemes demonstrate our technical competency, international comparability and traceability to international standards.

Annual crop quality surveys on wheat, maize, soybeans and sunflower funded by the Winter Cereal Trust, Maize Trust and Oil and Protein Seed Development Trust, generate crop quality data that reveals general tendencies over production regions and seasons. In addition to quality information, the Crop Estimates Committee's production figures related to hectares planted, tons produced and yields obtained as well as supply and demand information from SAGIS (South African Grain Information Service) are also included. Reports can be requested from SAGL or can be downloaded from the SAGL website in PDF format.

Please visit our website for information pertaining to SAGL ring tests and laboratory training courses that will add value to your own internal quality control system.



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