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# agbiz GRAIN QUARTERLY


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# Value chains for the future

*By Dr Erhard Briedenhann, chairperson, Oilseeds Advisory Committee*

The significance of efficient and functional value chains in the grain industry cannot be overstated. Ensuring that cost-effective food products are made available to consumers who are buckling under financial pressures due to an ailing economy, and the rising costs of basic essentials, electricity, and fuel is a priority.

Grain and oilseeds play a pivotal role as the starting point for adding value to primary products that consumers require. Numerous processes, from farm to fork, are involved in producing products for both human consumption and animal production.

## The free market advantage

The advantage that has been afforded to industry to trade in a free market environment, without government intervention in the form of quotas and restrictions (imports/exports), is imperative for an efficient market. Private trade and investment develop slowly in countries with unpredictable government policies and free market interference. Consistent and coherent policy across the region is therefore essential.

The African continent is the largest export market for South African agricultural products. The establishment of the African Continental Free Trade Area, covering almost the entire African continent, aims to create a single market, and that could be a game-changer.

Several role-players in the supply chain assist in opening new export markets, including China and Indonesia, for grain and oilseeds. This includes government, the South African Cereals and Oilseeds Trade Association (Sacota), Grain SA, and others that have set great examples of what can be achieved through co-operation.

## Meeting increased demand

To meet the growing demand for food, fibre, and fuel we will be forced to increase output on less land. The need for constant, rapid increases in productivity is evident. Technology plays a leading role through steady growth in average yields achieved under typical growing conditions. Embracing innovations such as insect-resistant plants, weed control products, biotechnology protection chemistry, gene editing, and digitalisation is therefore essential.

South African producers need to continue adopting advanced practices. Improved data analysis will supplement decision-making. The utilisation of artificial intelligence, particularly through global positioning system drones, for farm management tasks such as crop spraying and field analysis, are being adopted at a rapid pace.

The historical adoption of genetically modified (GM) plants, which resist fungi, viruses and insects while using nutrients more efficiently and requiring less fertiliser, water and herbicides, has been successfully implemented. The willingness of producers to pay for new technology is evident through ongoing support for the South African Cultivar and Technology Agency (Sacta) levy, encouraging seed companies to introduce new technology and germplasm into the country. Suppliers and producers who adopt these advancements will reap the rewards.

## Improving farm dynamics

Farms are often consolidating into larger units. The trend is for more hectares to be farmed by fewer producers, with consequent economies of scale. Return on investment, rather than maximum performance, is what drives the modern producer. Producers are entrepreneurs who adopt new technologies and run their businesses as corporations. Each year Nampo and other agricultural exhibitions showcase some of the best new equipment and technologies available to producers and the value chain.

Specialisation is often required to improve efficiency and optimal use of resources. Producers must therefore remain vigilant in respect of marketplace changes,

*Dr Erhard Briedenhann.*

and adapt accordingly. As an example, cultivating high-oil sunflower (which can yield up to 10% more oil than the national average) has significant potential. These cultivars deliver excellent yields and money in producers' pockets based on their oil content. This could make a large contribution to the long-term viability of the sunflower industry.

## Food safety and quality

Quality testing on grain and oilseeds is a vital link in the value chain and for this link to be sound, food safety as well as transparency and traceability are required.

Informed business, economic, and social decisions in the food and feed value chain can only be made based on the required information regarding the quality of commodities being used as raw material or as final products. Quality can only be assessed when accurate measurements are available that assure food safety and ultimately support trade.

The Southern African Grain Laboratory (SAGL) measures the quality of grain and oilseeds over seasons and different

production regions in South Africa. By doing so, SAGL provides a database for the country that can be accessed and utilised by parties in the value chain. This can be used to market our commodities locally and internationally.

## Challenges and opportunities

Grain and oilseeds will continue to be challenged by regulatory scenarios, political tension, and trade issues. The role of organisations such as Agbiz, Agbiz Grain, and Sacota in this arena is therefore critical. There will always be consumer mistrust in agricultural technologies, which must be addressed at a consumer level by way of information and communication. The supply chain needs to ensure that the consumer gets the product that he or she wants. In addition, food prices must remain affordable considering that this will play a very important role in many consumers' choices.

New breeding techniques (NBTs) have given the world a new tool with which to work more efficiently and make rapid genetic progress to the benefit of all parties. Soon, almost every new technology available to this country will likely involve NBTs. The decision by the South African government that the risk assessment framework for NBTs would be equivalent to that of GMOs, stands in contrast to the rest of the world (including Africa) and we will be left behind. This challenging situation will hopefully be resolved soon.

## Industry organisations' support

The important role that industry organisations play in supporting the crop production value chain, as well as value addition in South Africa, needs to be emphasised.

The South African Grain Information Service (Sagis) is instrumental in providing timely and accurate information relating to the products manufactured for human and animal feed consumption. This information entails a detailed breakdown of the type of products manufactured, and assists role-players in the supply chain in making informed decisions to drive their businesses.

Some of the familiar role-players are Grain SA which supports producers, Sagis, SAGL, Sacota, the Animal Feed Manufacturers Association (AFMA), South African National Seed Organization (Sansor), Agbiz and Abgiz Grain, and the Protein Research Foundation. This is not an exhaustive list and numerous other organisations deserve commendation for their excellent work in supporting value chains.

## Ensuring industry progress

The importance of consistent and focussed research and development has been emphasised, but the partnership between government, the private sector, industry organisations, producers, and consumers is also significant. The funding of projects or research by the various trusts plays a vital role in industry progress.

For more information, contact Dr Erhard Briedenhann on 082 551 1634 or erhardb@netactive.co.za.

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# AGBIZ GRAIN GAZETTE

## Review: Canola and malting barley grading regulations

Stakeholders in the value chain of canola and malting barley should note that the regulations are currently awaiting ministerial approval to be published in the government's notice for public comment. – *Agbiz Grain*

## OVK students to embark on GDM qualification

OVK is excited to partner with Agbiz Grain on a journey where we help shape future leaders in the grain sector and advance professional capabilities within the grain industry.

OVK is proud to have two members who have enrolled for the grain depot manager (GDM) qualification. This qualification will equip them with the skills and knowledge to manage and achieve targets effectively, learn how to manage and lead personnel, and utilise resources efficiently while meeting responsibilities.

In addition, it will enable students to achieve operational efficiencies and maintain the mechanical integrity of bulk grain handling and storage units. OVK is honoured to have Joe Stander, silo manager at Clocolan silo, and Sipho Makatsi, silo manager at Ficksburg silo, as part of the GDM qualification group. – *OVK*

*Joe Stander, Clocolan silo manager.*

*Ficksburg silo manager, Sipho Makatsi.*

## Agbiz Grain welcomes Intreso Africa

Intreso Africa, a division of Intreso Group which incorporates the existing Agricultural Solutions business and holds exclusive rights to Draslovka proprietary products, presented its company profile and products to the steering committee on 20 May this year. The committee approved its associate membership at the meeting on 12 June. Intreso Group provides global trial support, application and product development consulting, and regulatory and business development support to suppliers, distributors, and customers of fumigation products. – *Agbiz Grain*

## NWK welcomes new trade manager

Bertus Jacobs joined NWK as the senior manager of NWK Trade on 1 June 2024. He took over from Pieter Coetzer, who retired on 31 July this year.

Jacobs grew up on a farm between Christiana and Schweizer-Reneke. After completing his master's degree in sustainable agriculture at the University of the Free State, he joined GWK as operational head of precision farming in 2011. He was the area manager of precision farming for the central region from 2014 to 2016. He also obtained a Master of Business Administration (MBA) qualification from Stellenbosch University in 2016.

In August of 2016, he started working at the Humansdorp Landbou Koöperasie as a technical/specialist services manager. He was tasked with the operational management of various divisions, including fertiliser, agricultural chemicals, seed, veterinary services, livestock, irrigation, as well as geographic information systems and technological development. He was also responsible for establishing a shade net erecting business unit that installed shade net for export crops such as citrus and grapes.

Jacobs is grateful towards NWK for the opportunity: "I am looking forward to investing in the area where I am from and to be part of an established agricultural business that is 115 years old. It remains a privilege to expose your children to the culture and values of this farming area." – *NWK*

*Bertus Jacobs, new trade manager at NWK.*

## Empowering grain depot leaders

On 29 July the Grain Depot Manager and Grain Grader Qualification Orientation marked a significant milestone in grain depot management. Lucas Mahlangu, training manager at AFGRI Grain, opened the event, setting the tone for a day of learning and professional growth.

The orientation featured contributions from Wessel Lemmer, general manager of Agbiz Grain, Jerry Maritz, managing director of AFGRI Grain, Jan de Sousa, general manager of operations at AFGRI Grain, and Emmie Pietersen, director of the Peritum Agri Institute.

The 24-month course, funded by AgriSETA, offers standard and uniform qualifications under the National Qualification Framework. Participants will receive certificates upon completion, recognising their achievements. The programme includes seven modules, four of which are core, designed to equip grain depot leaders with essential skills.

Pietersen provided an overview of the programme, noting the dedication required to complete the qualification and challenged participants to engage deeply with the content.

The Grain Depot Manager and Grain Grader Qualification Orientation is a significant step in empowering grain depot leaders, ensuring the industry's sustainability and growth.

Congratulations to all who contributed to this remarkable achievement and to the participants embarking on this journey of learning and leadership. – *AFGRI Grain Managment*

*On the left is Jerry Maritz, managing director of AFGRI Grain, with attendees at the Grain Depot Manager and Grain Grader Qualification Orientation event.*

## Sampling equipment approved

Agbiz Grain members have evaluated the sampler recommended by Southern African Grain Laboratory (SAGL) and, during the steering committee meeting held on 12 June, approved its practicality for use in dispute resolution. The manufacturer's certificate of compliance and SAGL's handling procedure have also been approved. Agbiz Grain will recommend the sampler to the industry (relevant forums) for inclusion in the dispute resolution protocol used by the value chain. – *Agbiz Grain*

## Regulation slows innovation

At the International Grains Council Grains Conference 2024, held in London, England on 11 and 12 June, delegates were told that the grains sector needs innovation and access to new technology to feed a growing population. Some are hoping that political changes in Europe will speed up the approval of new products and varieties.

Eric Dereudre, vice-president of international government and industry affairs for Corteva, an agricultural chemical and seed company, noted that producers have increased productivity over the last 50 years to feed a doubling population, while global maize production almost doubled in the last 30 years.

Dereudre also pointed out that there is already a "very large gap" between the productivity growth needed and what is being achieved, which is "not due to lack of effort from the agriculture sector". He added: "All the innovation in the world can only be half the solution. Fast technology adoption is needed." – *World-Grain.com*

## Application for statutory levy on wheat, barley and oats

The purpose of the application for a statutory levy is to provide financial support for winter cereal information, research, and transformation functions identified by the winter cereal industry as essential. This application has received unanimous support from the members of the Wheat Forum, following the recommendation of the Wheat Forum steering committee, representing the directly affected groups in the winter cereals industry.

Statutory levies have previously been imposed on wheat, barley and oats (which expired in September 2020) to provide financial support for research projects, quality testing, the provision of generic market information to all stakeholders, and to support the development of emerging winter cereal producers in South Africa. Agbiz Grain members support the application to reintroduce statutory levies on wheat, barley, and oats from 1 October 2024 to 30 September 2028. – *Agbiz Grain*

## NWK Training Centre accredited

The Quality Council for Trades and Occupations (QCTO) has set policies in place to accredit trade test centres or assessment centres. The aim is to ensure that education and training in occupations and trades offered in the country are credible and valid. This is done in accordance with the *Skills Development Act, 1998 (Act 97 of 1998)*, Chapter 6C as well as the *Continuing Education and Training Act, 2006 (Act 16 of 2006).*

NWK applied for accreditation to the QCTO and its quality partners. Following a site inspection of the training centre, approval was given and the NWK Training Centre is now accredited for a period of five years starting 11 July 2024. The centre is accredited to test and assess the *Occupational Certificate: Grain Depot Manager*, an NQF level 5 qualification (ID 118686). – *NWK*

## Malting barley research initiated

Storage operators and buyers need information on the storability of malting barley varieties. Agbiz Grain has initiated two separate but mutually beneficial malting barley projects for 2023/24. Agbiz Grain appreciates the South African Winter Cereal Industry Trust's (SAWCIT) financial support for the two research projects.

The respective researchers will provide SAWCIT with progress reports on the two projects. In addition, two follow-up projects have been identified for 2024/25 and once these are approved by SAWCIT, more information will be provided on the outcome and approval of the respective projects. Agbiz Grain has committed resources to the new project application from the start of the marketing year on 1 October when malting barley is received for storage. – *Agbiz Grain*

## Plant protection options welcomed

The European Association of Trade in Cereals, Oilseeds, Rice, Pulses, Olive Oil, Oils and Fats, Animal Feed and Agrosupply (COCERAL), UniStock, and Euromalt acknowledge the ongoing technical and political debate in the European Union (EU) on managing residues of plant protection products in food and feed, in a way that is safe for human and animal health, and respectful of the environment.

In particular, COCERAL, UniStock, and Euromalt welcome harmonised measures that reflect the agricultural needs of the EU member states and third-export countries and can favour international co-operation, underpinned by a rules-based order established in science.

With crop protection considerably moving to greener and more sustainable alternatives, including low-risk substances, biological tools, agroecology, and integrated pest management, it is relevant to maintain the options the farming community needs to grow crops and feed the planet. – *COCERAL*

Click here for more information on COCERAL, UniStock and Euromalt's positions on plant protection products.

## Change to maize grading regulations requested

Agbiz Grain is requesting a permanent change to the maize grading regulations, which were previously agreed upon by consensus by members of the value chain in 2022/23. Unfortunately, these recommended changes were not considered for inclusion in 2023/24.

The proposed changes were submitted to the technical committee of the Maize Forum steering committee (MFSC) this year and need to be reviewed for approval by the technical committee before being recommended to the MFSC. The Department of Agriculture is awaiting the recommendation of the MFSC to initiate the process. The application for a permanent change to the regulations is a lengthy process that can take up to two years, potentially extending to 2027. – *Agbiz Grain*

## GDM qualification question bank

Agbiz Grain members have developed a question bank for the grain depot manager (GDM) qualification that must meet the requirements set out in the External Integrated Summative Assessment (EISA) question bank workshop. Lizelle Jacobs from MindAlive, who facilitates the process, will evaluate the questions to ensure they adhere to the principles and question requirements.

In addition, the questions will be tested by a specialist in the storage industry to ensure they are not ambiguous and to assess the correct answers. According to Jacobs, the process is already more than 10% complete, but there is still a long way to go. The first intake of students will take the EISA exam around March 2026. – *Agbiz Grain*

## New genomic techniques require balanced legislation

COCERAL has delivered a letter on the evolutionary legislation on new genomic techniques. The new legislative framework was expected to be unveiled in late June, according to the latest information available, and some political choices must still be made, including on traceability and transparency of 'conventional-like' new genomic techniques (NGTs).

In COCERAL's perspective, it is important not to impose traceability, labelling, and coexistence measures that place specific obligations on producers growing conventional-like NGT varieties. This is specifically important in the global context, considering the trade-related challenges that might arise in case the EU's approach does not align with the enabling policies increasingly being adopted by Europe's trade partners.

In addition, imposing extra requirements (traceability, segregation, and labelling) on conventional-like NGT products would be discriminatory, not proportionate and not science-based. Eventually, in a market-oriented, consumer-driven food value chain, freedom of choice means that legitimate production choices have economic consequences, i.e., food business operators have to bear the costs for the benefits. Transparency, traceability, and segregation should reflect this baseline principle.

So far this assumption has governed the relationship between conventional and premium price/niche markets well, including the organic sector, and should remain in place. – *COCERAL*

# Inspection of grain and oilseeds: Industry requests SOP

*By Wessel Lemmer, general manager, Agbiz Grain*

The Department of Agriculture (formerly the Department of Agriculture, Land Reform and Rural Development or DALRRD) aims to introduce inspection services across all agricultural sectors without exception. The industry regards this as a major intervention, especially as the department is pushing ahead with introducing inspection services for the grain and oilseeds value chain, as mandated by the *Agricultural Product Standards Act, 1990 (Act 119 of 1990) (APS Act).*

The established Assignee Forum, administered by the department, recommends standardising the approach to implementing inspection services before introducing new inspection services.

Despite industry requests for a standard operating procedure (SOP) between the industry and the department, which would form the basis for a service level agreement (SLA) between the department and the appointed assignee, the then DALRRD allowed ongoing public consultations between the industry and the assignee.

The implementation of costly inspection services should be analysed for benefits and costs, with alternatives such as self-regulation audits also considered. Based on these findings, the department can then make recommendations on whether an inspection service is warranted.

The current approach by the department to leave the process to the assignee is creating tension and mistrust. The following section sets out aspects on which Agbiz Grain disagrees with the department and its assignee.

## No SOP in place

An SOP should have been agreed upon between the industry and DALRRD before Leaf Services published its fees. The SOP should be informed by a benefit-cost analysis and recommendation from the department, and be based on sound findings to continue with the inspection. The current draft SOP of 2023 is not yet finalised. Parameters outlined in the SOP should determine the SLA (not finalised), the business plan, and ultimately the inspection fees. It is unfair to expect industry feedback without a final SOP, as it takes up unnecessary time and financial resources.

Agbiz Grain has requested that the executive officer assure the industry (including Agbiz Grain and other storage operators) that inspection fees will not be published until the executive officer has approved them and a final SOP is in place. Although the assignee did undertake work on an SOP, Agbiz Grain strongly disagrees that consensus has been reached on inspection frequency and fees.

Agbiz Grain requests the direct involvement of the executive officer in formulating the SOP for raw grains. In the absence of an SOP, Agbiz Grain rejects any unilaterally developed SOP by the assignee, rather than by the Department of Agriculture.

## Final fee determination

Currently, Leaf Services will consider the comments received since November 2023 and determine a final fee. Since the issuance of November 2023's *Government Notice* inviting comments, Leaf Services, with the active involvement of the department, has formally consulted with Agbiz Grain and affected parties.

The purpose of this process is to establish the SOP framework for inspections. An SOP should encompass the frequency of inspections and procedures – from this, expenses can be determined which, in turn, allow for the determination of the inspection fee.

The documentation that accompanied the invitation for comments provided insight into these components. It explained how inspection frequency was determined, outlined inspection procedures, and included a financial model for cost estimation. The goal of the formal consultations that the assignee is currently engaged in is to determine the SOP.

## Exemption of storage operators

Agbiz Grain's members are not the owners of products in storage and therefore not affected stakeholders. The *APS Act* states clearly that a product cannot be sold or prepared for sale unless the product is classed and graded. The *Act* is clear that the owner of the product pays the inspection fee. This is not recognised in the consultation process. Storage operators should be exempt from inspections and should not be required to submit comments.

The Department of Agriculture and the owners of the products slated for inspection (not the storage operators) should agree on the SOP. Without alignment between the SOP and the product owners' requirements, the department/Leaf Services cannot finalise the inspection methodology and fees in accordance with the *Promotion of Administrative Justice Act, 2000 (Act 3 of 2000) (PAJA).*


Photograph: Silostrat

The methodology and fees cannot be based on inputs from an unaffected stakeholder who will not be paying the inspection fees.

## Product/sector exemption request

Comments received were directed to the executive officer or minister, requesting an exemption for certain products or sectors from any prohibition referred to in paragraph (a) of the *APS Act*, either fully or partially, subject to terms and conditions. The executive officer may grant such exemption either generally or in respect of a particular quantity of product.

The current draft of the 2021 SOP, business plan, and fees did not provide for an exemption, as allowed, under Section 3(1)(c) of the *APS Act*. The Department should allow the industry to motivate and apply in favour of an exemption.

Leaf Services responded that they cannot speak on behalf of the minister or executive officer, but they believe that all regulated products within their mandate should be subject to inspections as outlined in the *APS Act*. The executive officer of the Department of Agriculture has yet to respond.

## Liability of owners

According to Agbiz Grain, the statements made by the assignee in the November 2023 inspection methodology document were inappropriate. It is evident that the assignee is biased towards a particular stakeholder; it shouldn't take sides or pit stakeholders against each other. A court has the power to judicially review an administrative action if the administrator is biased or reasonably suspected of bias.

Leaf Services rejected the allegation of bias and assured industry that the enforcement of the *APS Act* and regulations for regulated products and supporting processes will be adhered to, irrespective of sector or FBO size. The assignee is, however, compelled to note how the inspection costs would impact small-scale producers. They are unaware of any stipulation in the *PAJA* that precludes them from doing so.

> Agbiz Grain believes it is fair to expect the business plan, inspection methodology, and inspection fees to reflect the reality of the product owner's liability. Otherwise, it is impossible to rationally connect the final inspection fee to the owner and the inspection's location before the product is sold.

## Sufficiency of self-regulation

Leaf Services received comments suggesting that there would be no need for government oversight through inspections, as envisaged in the *APS Act*, given the standard of self-regulation already in place. It was argued that either market forces or inherent parameters in raw ingredients used in bread production are sufficient safeguards to ensure quality control. Moreover, reference was made to organisations that would hold their members accountable for non-compliance.

Agbiz Grain noted that since deregulation 30 years ago, owners of raw products have complied with the *APS Act*, which aims to facilitate trade by classifying and grading raw grain. Grain and oilseed storage operators have provided this service to approximately 70% of the raw grain owners in the value chain. Industry has supported the development of services such as the SAGL, the South African Grain Information Service (Sagis), and the Southern African Grain Arbitration Association.

In a deregulated free-market environment, buyers and sellers ensure that raw grain is graded and classed, and that the industry complies with the *APS Act* and grading regulations. Therefore, pursuing the implementation of inspection services by the Department of Agriculture is unnecessary.

## Redirection is required

The *APS Act* empowers the minister to implement inspection services or appoint an assignee. To the stakeholders' knowledge, government has not received a request from any stakeholder for the imposition of inspection services. Agbiz Grain is calling on the Department of Agriculture to share the request received from industry and provide assurance regarding the need for an inspection service.

According to Grain SA, the existing model of industry self-regulation has been effective for over 20 years. An initial assessment of the Leaf Services proposal highlights concerns regarding redundancy in the grading process. The grain industry has consistently advocated for a self-regulatory environment that aligns with the interests of consumers, producers, and industry.

Grain SA views the proposed actions by the government and Leaf Services as contrary to current government policies. They suggest that the grain value chain and the Department of Agriculture re-evaluate the proposed services to redirect their efforts to areas where value can be added, such as inspecting imports, enhancing food safety systems, and disputing

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resolution mechanisms in the grain and oilseeds industry.

## Disparity in comments

Leaf Services acknowledged that industry role-players, especially large FBOs, have measures in place to ensure quality control and high standards of food safety. How and which of these measures are deployed is up to each FBO. According to Leaf Services, there is no industrywide standard to ensure compliance with the *APS Act*. Had such a standard existed and been enforced, Leaf Services and the department would not have needed to develop an SOP. The absence of consensus is evident from the disparity in comments received from stakeholders on the same inspection protocol point within the same sector.

Leaf Services noted that the *APS Act* does not empower representative organisations with any form of enforcement mechanism. As an assignee, Leaf Services has several options available under the *APS Act* to ensure that an FBO addresses non-compliance, including withholding the sale of products.

While market forces are certainly a crucial factor in regulating an industry, it too is not empowered to the same measure that the *APS Act* allows for a designated assignee. Market forces do not operate within a considered and standardised framework. If self-regulation were an effective method for ensuring regulatory compliance, we would expect to see an absence of official controls in other countries or territories.

According to Leaf Services, industry stakeholders have measures in place. This is why the rubric, which determines the risk assigned to a completed inspection, allows for points to be awarded should quality control measures be in place. However, the *APS Act* requires the product of the owner to comply with the *Act*. The purpose of the *Act* is to prevent the product of the owner to be traded unless it has been classed and graded. The sampled, classed and graded product is inspected and not the function of sampling and inspection.

Therefore, the rubric and risk assigned to a completed inspection that allows points to be awarded should quality controls be in place does not rationally links to the product whether the product complies with the *APS Act* or not. At best the rubric and points awarded should be based on the product of the owner and the product of the owner should be awarded points.

However, the latter approach to use a rubric and penalise the owner of the product or award points to the owner is not required by the *APS Act*. The *APS Act* already specify penalties for the owner who's product does not comply with the *APS Act*.

## Grading and analysis of raw grain

According to Agbiz Grain, the *APS Act* does not mandate grading analysis to be conducted at an off-site laboratory. This is technically impossible as a divided sample is not representative. For bulk grain commodities, such as raw grain, a sample taken at the intake point (e.g. the Wesselsbron silo) cannot be analysed elsewhere (e.g. at SAGL in Pretoria). Splitting a sample does not ensure it retains the same composition and characteristics as the original, leading to potential disputes between the assignee and the product owner.

It is unclear whether the grading will be performed on-site by the Leaf inspector, whether a sample will be sent to SAGL, or whether the inspector will audit the grading done by the FBO grader. This needs to be clear in the SOP. The next section suggests sending a sample to SAGL, implying off-site grading. Will a sample be sent to SAGL in case of a dispute?

Leaf Services did note concerns that the sample taken by the inspector during a visit to an FBO should closely match the sample used by the FBO's grader to determine the grade.

## Inspection points

Leaf Services argues that if producers are invoiced for inspections at grain intake points, they should receive the inspection report, as they paid for this service. "However, the producer would then be in a position where they receive information on an inspection conducted on a function (grading) that they do not own, control, or have the means to improve, especially in the case of non-compliance. For instance, if the inspection report states that the calibration certificate at the local silo has expired, is it then the producer's responsibility to rectify this issue?"

According to Agbiz Grain, the *APS Act* states that a product cannot be sold unless it is classed and graded. The *Act* does require that the classing and grading functions performed by service providers (storage operators) will be inspected. It includes the calibration of weigh bridges that cannot be rationally connected to the classed and graded product.

## Differences of opinion

According to Leaf Services, raw grain inspections will be conducted at silos and mills. Samples will be taken at intake and outload points at silos, as well as the intake point at mills. Inspections will primarily be conducted at grain intake points, namely at silos (both at load-in and load-out) and at mills where raw grain is purchased directly from producers.

According to Agbiz Grain, the *APS Act* dictates that inspections must occur before the sale of the raw product, at intake points of storage structures, not after the sale, e.g. at the point of outloading from silos after intake and storage.

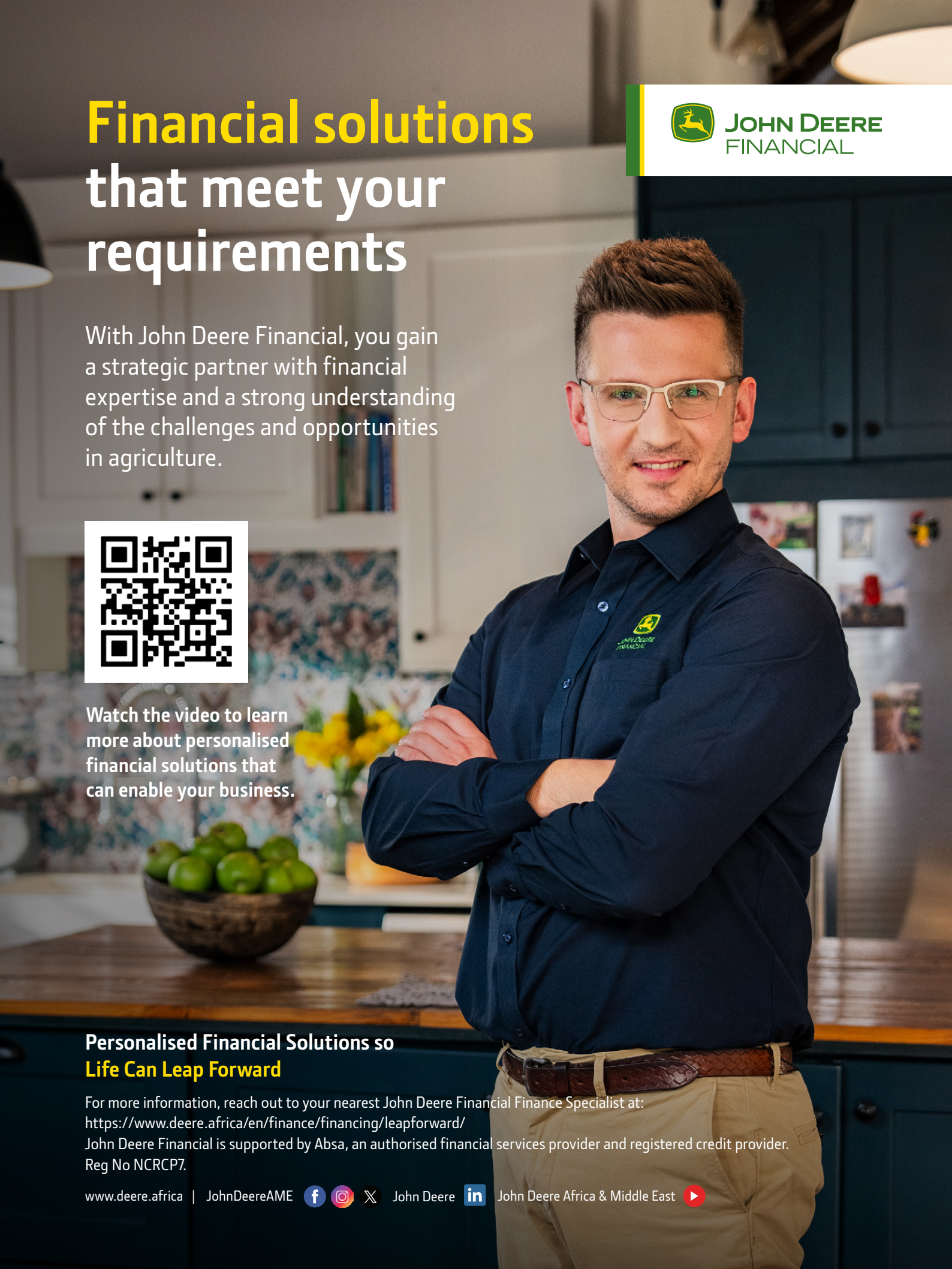
Rubric points and risk analysis of the owners must be based on the product, not on the service provider. Inspection frequencies should increase if the product does not comply with the *APS Act*. Inspection fees should be rationally connected to the product to ensure proper consultation, as per the *PAJA*, by the Department of Agriculture and its assignee.

## Final thoughts

The department must allow the Assignee Forum to complete its work. The introduction of inspection fees should be recommended or not, after a thorough benefit and cost analysis has been done the Department of Agriculture.

The business case, inspection methodology, and fees must be based on a clear SLA between the Department of Agriculture and the assignee, which should be based on an SOP between the department and industry. Currently, these aspects do not reflect the actual cost of inspection.

For more information, send an email to Wessel Lemmer at wessel@agbizgrain.co.za.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# Agbiz ready to weather the storm

*By Susan Marais, Plaas Media*

The theme of this year's Agbiz Congress held at Sun City in June was "Sustaining growth in a changing global landscape". "While the political future of South Africa remains uncertain, Agbiz's leadership is ready to weather the storm resiliently," said Antois van der Westhuizen, newly elected vice-chairperson of Agbiz.

Van der Westhuizen, also the managing director of John Deere Financial (JDF) Africa and Middle East, bases this on the fact that remarkable people work within this sector. "I recently spoke to a support member of JDF, who assists the South African JDF team in wartorn Ukraine. It was incredible to hear her story of how they survive and find food and clothing, thanks to their support structures."

He added that the same spirit of circumventing change through networks is also something that South Africa's agricultural sector excels at. "South Africa does have a lot of challenges, but we also had problems ten years ago and we were able to grow despite those challenges. The collective minds in this room can weather any storm."

Francois Strydom, Group CEO of Senwes and Agbiz's outgoing chairperson, underscored Van der Westhuizen's sentiment. "We voted in May, and even now we are no longer where we were as voters. That is what makes South Africa an amazing nation. We have a great genetic ability to move on and if a problem knocks on our door, we address it."

## New markets sought

However, to thrive going forward, new global markets need to be opened actively and aggressively because the traditionally strong European Union markets are becoming less accessible. This was the opinion of Prof Mzukisi Qobo, South Africa's ambassador and permanent representative to the World Trade Organization in Geneva, Switzerland. "Currently government and the private sector are still not collaborating enough to enable the aggressive market opening that it requires."

One of the issues that could hamper South Africa's efforts is the global rise in protectionism. Countries could exclude any country that is not considered an ally. "This could very well be the next cold war. In other words, the stance becomes 'If you are not with us, you are against us'," Dr Qobo said.

An interesting development that could benefit South Africa amid challenging trading circumstances is the rise in connector countries. These countries serve as conduits between countries such as China and the United States that do not have friendly trade relations. "Countries such as Mexico are reaping the dividends by being non-aligned. They don't make any friends or enemies," Dr Qobo said, adding that South Africa should consider its own actions carefully. "It is important not to get caught in the crossfire between conflicts."

## Economic uplift

Dr David Fowkes, advisor to the governor of the South African Reserve Bank, emphasised that South Africa stands at a major inflection point in its history, with a highly changeable economic environment. Over the past decade, South Africa ranked among the seven worst-performing economies in terms of *per capita* growth. "We really are the underperforming kid in the class." However, Dr Fowkes stands amazed at how South African businesses continue to grow despite severe service delivery challenges. The agricultural sector performed very well. "Agriculture has played a role in lifting the rest of the economy."

He believes that it does not require serious insight to know what needs to be done to get South Africa out of its underperformance rut. "Basic things need to be fixed. The lights need to be on, and the rails need to work." Dr Fowkes stressed that fiscal policy decisions resided with the National Treasury while the South African Reserve Bank focussed on monetary policy.

## Creating opportunities

The congress held a panel discussion on risk, specifically financial risk, and investment in agriculture. Dr Mathews Phosa, chairperson of the South African Agricultural Development Agency (AGDA), said while banks are

*Dr David Fowkes, advisor to the governor of the South African Reserve Bank, said that basic things need to be fixed to get South Africa out of its underperformance rut. (Photograph: Agbiz)*

*The newly elected vice chairperson of Agbiz, Antois van der Westhuizen, emphasised that Agbiz's leadership is ready to weather any storm. (Photograph: Agbiz)*

naturally pessimistic, South African commercial banks should provide more funding support to black producers. "Banks should reach out to new landowners. If banks keep on avoiding this, the poor will remain poor forever. AGDA has received substantial funding from the Netherlands." Local banks do not support new landowners similarly.

During one of the breakaway sessions, the Banking Association South Africa led a discussion regarding the multiple risks that they must weigh up when using depositors' money.

However, Dr Phosa warned that being overly risk averse would not lead to growth. "I am a shareholder in Westfalia. If we worried too much about risk, we would never have invested in India or South America. But we were brave and are now reaping the rewards."

Thabi Nkosi, chairperson of the Land Bank, acknowledged that South Africa's agricultural sector had an incredible run over the past thirty years. "However, despite the optimism and growth, something is troubling me: The sector has tried and true elements that have helped us grow, but I'm worried that we will get to a point of diminishing return on investment. We must remain optimistic, but we must also become serious about unlocking the potential of communal lands. The reality is that growth is becoming harder with the current approaches."

## Reducing the risk

In a counter argument, Elias Masilela, chairperson of Sanlam, said it was unfair to blame South African banks for being cautious investors. One rather needs to be critical of the public services, which make the country a risky investment destination.

He said any investor that has to choose between a high risk or risk free investment will select the no-risk option. "You end up focussing more on risk than production. That is why investors would like to see an environment where risk is reduced." Investors often favour monopolistic businesses as they tend to present lower risks compared to inclusive businesses.

The country needs to avoid self-inflicting risk because that will not help anyone. "South Africa's current failure is not because we have no plan in place; it is due to economic failure. We need to start optimising the resources that we do have. South Africa's educational system, for example, receives a higher proportionate allocation of government funding when compared to any other part of the world. Yet the quality of our education system's output is sub-optimal," Masilela pointed out, adding that investors needed to see their investments grow.


*Kallie Schoeman, CEO of the Schoeman Group, and Dr Mathews Phosa, chairperson of the Agricultural Development Agency.*

*Francois Strydom, outgoing chairperson of Agbiz, believes South Africans are genetically resilient. (Photograph: Agbiz)*

## Agribusinesses' responsibilities

Frans van Wyk, director of Agrifusion, led a panel discussion on agribusiness' environmental, social, and governance (ESG) responsibilities. Following a study on Agbiz's needs in February 2024, he recognised the importance of sharing positive stories about agriculture as there is significant progress in environmental and social governance.

Dr Raylene Watson, an associate partner at Ernst & Young, said that the sharing of such stories has a positive impact on companies' bottom lines due to changes in international investment legislation. "These changes are even changing how commercial banks report their financials." Nowadays, companies must report on environmental matters such as carbon footprints and gender parity for each investment. "In the end, investors want to see that agribusinesses understand the socio-economic issues society faces and that these issues are addressed by the company."

Dupie van Rensburg, TWK Agri's executive manager for corporate services, noted that reporting on ESG matters revealed substantial progress. "As an agricultural business, sustainability is already embedded in all our business models. TWK does not try to address every ESG aspect at the same time; rather, it evolves as we go along."

Christo Conradie, manager of the South African Wine non-profit company, said the South African wine industry has been focussing on sustainability for years and this can be seen on every bottle of wine. "If you pick up a bottle of wine, you can see the IPW (Integrated Production of Wine) seal of sustainability." These seals have been placed on bottles since early 2000 and indicate that a particular wine producer and cellar have completed a course on sustainability issues.

Dewald Olivier, CEO of Red Meat Industry Services, referred to the methane debate and said that livestock producers, specifically cattle producers, still have a target on their backs. "What we are currently focussing on is to create a standard throughout the value chain. Producers need to be equipped with tools to show them what they are already doing correctly in terms of ESG and what they still need to focus on."

For more information, contact Temba Msiza, Agbiz communications officer, at temba@agbiz.co.za or 012 807 6686.

# French co-operative explores South African grain industry solutions

*By Susan Marais, Plaas Media*

Delegates from the French co-operative, Terrena, recently visited South Africa to investigate the possibility of conducting a study tour in December this year – this will be Terrena's first study tour to South Africa.

Upon arrival, the team and their interpreter visited AFGRI's Bronkhorstspruit silos and two nearby farms. Jan de Sousa, general manager of AFGRI Grain Management, discussed this grain operator's 69 silo structures and 22 grain bunkers which collectively store around five million tonnes of grain. Grains include maize (white and yellow), wheat, sorghum, and imported grain. AFGRI also stores soya beans and sunflower seed.

## Similarities

Dominique Grasset, board member of the French co-operative explained: "Because we farm in the Northern Hemisphere, it is interesting to visit other regions of the world that are on a level similar to ours to see what they are doing." The decision to visit South Africa was driven by the country's similarities in agricultural products such as grain, wine, and dairy. Therefore, they believe there is a lot to be learned from agricultural initiatives at the southern tip of Africa.

Producers who are going to be part of the study group will have diverse interests but, according to Grasset, everyone is eager to learn more about South Africa's approach to insurance, logistics, and traceability. "Seeing what others do in terms of finding solutions to problems is especially advantageous, as it can assist us in improving our systems back home," explained Grasset.

## Differences

The economic structures of South Africa and France differ significantly but, said Grasset, French producers find even these differences fascinating. While South Africa adopted a free market system in the early nineties, the French agricultural model remains heavily regulated by market policies.

Wessel Lemmer, general manager of Agbiz Grain, met with the French delegates

*From left to right are Jan de Sousa, general manager of AFGRI Grain Management, Wessel Lemmer, general manager of Agbiz Grain, and Dominique Grasset, board member of French co-operative Terrena.*

*French delegates with members of Agbiz Grain and AFGRI.*

in Bronkhorstspruit and expressed his renewed appreciation for South Africa's market model. "We must embrace the free market because it is a valuable ally. It is interesting to see how foreigners travel from distant places to learn more about our agricultural sector."

Lemmer highlighted the need to safeguard the institutions that maintain South Africa's free market in the grain and oilseeds industries, ensuring they do not fail as a result of inadequate funding, oversight, and participation.

For more information, send an email to Wessel Lemmer at wessel@agbizgrain.co.za.

# Dr Hannalien Meyer's analytical innovations

*By Wiana Louw, The Southern African Grain Laboratory*

In 2012, the Southern African Grain Laboratory (SAGL) appointed Dr Hannalien Meyer as a technical specialist. She mainly focussed on developing and implementing new analytical methods and techniques for chemical analyses, mycotoxin analysis in food and feed, vitamins in fortified food products, and sugars and amino acid analysis. She completed her training at the SAGL in the grading of grains and oilseeds, playing a key role in various Agbiz Grain projects, such as evaluating handheld sampling probes of grains and conducting proficiency tests to compare graders' skills.

## An analytical pioneer

Hannalien is an analytical chemist with 43 years' experience in various analytical laboratories. She specialises in developing and validating analytical methods using chromatographic and mass spectrometric techniques. For over 20 years, she has been a technical signatory in South African National Accreditation System-accredited testing facilities and provided hands-on training programmes for analysts from different African countries.

In April 2024 she obtained a PhD in Chemistry, focussing on the chemical analysis and survey of mycotoxins in South African-produced grain. The study aimed to understand the prevalence of grain-related mycotoxins in South African-produced wheat and maize and potential risks associated with toxins produced by *Stenocarpella maydis* infection in maize.

## Contribution to SAGL

At SAGL, she developed and validated an LC-MS/MS method for the simultaneous quantitative analysis of 14 different mycotoxins (both regulated and emerging mycotoxins) in wheat and maize. An accredited test facility for multi-mycotoxin analyses was established at the SAGL, allowing for the long-term monitoring of multi-mycotoxins with the capacity to analyse a large number of samples every season.

*Dr Hannalien Meyer.*

From the end of July 2024, Hannalien will be assisting SAGL on a part-time basis only. We thank her for her pioneering work and contributions to the SAGL and industry.

For more information, email Wiana Louw at wiana.louw@sagl.co.za.

# Transnet: Logistics reform is needed

*By Carin Venter, Plaas Media*

Some might wonder about the association between agro-logistics and South Africa's state-owned Transnet Freight Rail (TFR). Agro-logistics refers to the application of logistics methods that enable the movement of agricultural equipment and produce, from farm to fork. TFR is South Africa's state-owned freight transport and logistics company, which has been driven to the edge of collapse by fraud, mismanagement, and state capture over the past twenty-odd years.

*Agbiz Grain Quarterly* asked an expert in agro-logistics, Prof Jan Havenga from Stellenbosch University, to explain the important role of agro-logistics in terms of the movement of agricultural goods such as grains, farm equipment, and workers' supplies to and from the farm as well as the domestic and export markets.

Prof Havenga is an experienced lecturer, market researcher, macro-logistics researcher and consultant, strategic and change management specialist, and corporate strategy and marketing expert. He is also a National Research Foundation-rated researcher, based on his consistent contribution to freight flow and logistics cost measurement to inform national policy development, infrastructure planning, and rail renaissance and development of the new field of macro-logistics. He has led several projects on the topic in Africa and Asia.

## Logistics in agriculture

To understand agro-logistics, we must first differentiate between logistics and macro-logistics. Prof Havenga summarises it as follows: "Logistics is the movement and warehousing of goods. It is a system that offers the lowest cost for ownership. For instance, large shipments may be stored for a long time before the bulk is transported via a large enough train or smaller road-based shipments. In the first scenario transport costs would be lower, but warehousing and inventory carrying costs would be higher. Logistics calculate the options and find optimal solutions, which could be either.

"Macro-logistics, on the other hand, considers logistics systems at a national or state level. It then determines what type of railways, ports, warehousing, and zoning systems will be most efficient. This is to ensure that the value chains support economic growth in the best possible way. This is the lowest possible logistics cost given the available infrastructure and service. Agro-logistics is the agricultural part of macro-logistics."

*Prof Jan Havenga.*

## An infrastructure headache

Agro-logistics focusses on solutions that will help streamline the safe, controlled, and efficient movement of agricultural products and raw materials within a country or state. One of the main challenges South Africa has to contend with at the moment is the state of provincial and district roads, particularly those near mining operations.

"These roads were never designed to handle all the trucks transporting heavy minerals," says Prof Havenga. "They are being completely run into the ground by

these trucks. We have found that the only way to assist producers who rely on these roads is by shifting the heavy minerals from road transport to rail. This would provide a logistics solution, granting producers access to better roads that are easier to maintain."

When examining agriculture and grain in South Africa, the primary issue seems to be the state of the logistics infrastructure and its management. As explained by Prof Havenga, this means the country's logistics infrastructure need to be fixed. The downside, however, is that the country's rail network has grown larger than it should be.

Therefore, the challenge is twofold:

- Avoid expanding the railway system further and consider making it smaller.
- Focus on major corridors such as the N1 and N3, where most freight can be transferred from roads to freight rail, where it belongs.

"If we can achieve this, the roads will be less congested and the movement of freight will become more efficient and cheaper," Prof Havenga points out. "Our macro-logistics model is very clear on what freight should be on the road and what on the rail. Roughly half of the goods transported by trucks on the N1 and N3 should go via rail.

"Rather than allocating funds to the South African National Roads Agency Limited (Sanral), redirecting that investment towards addressing the primary issue – the improvement of rural and provincial roads – would enhance access to rural areas for both producers and miners."

Generally, if you see trucks carrying mineral commodities in rural areas, you can safely assume that approximately two-thirds of this freight should have been on rail. If the minerals were transported by rail, there would be 50% fewer trucks on the N1, N3, and rural roads and there would be more money allocated for the upkeep of these roads.

## Consolidation centres

In what way will a 'freight-by-rail' agro-logistics proposal benefit South Africa's grain industry? This process involves collecting produce from across the country, consolidating it at the various strategically located silo systems, and then transporting it to the main processing centres for milling and export.

"In agro-logistics terms, the goal is to link the consolidation centres, such as the places where grain produce is consolidated, with the millers and import and export centres," says Prof Havenga. "This will reduce the cost of logistics and benefit our country overall.

"Rather than relying on small locations, there will be larger centres where freight will be collected and consolidated. South Africa used to have railway stations, otherwise thought of as logistics hubs, where freight would be received and distributed or collected and then sent elsewhere. Unfortunately, with the demise of our railway system, we have lost those hubs, making it difficult to distribute freight across the country."

A good example of an agro-logistics solution would be to link the grain consolidation centre in Kroonstad via rail to the unused grain terminals in East London, which is currently in a state of disrepair. "It used to have the capacity to transport four million tonnes of grains annually. By connecting these centres, it would eliminate the need for trucks on the roads." The same rail infrastructure could benefit the automotive manufacturing industry in Gauteng and Gqeberha, which will then lower costs for all users, including the grain value chain.

## A team effort

In 2023 South Africa's coal exports via rail were the lowest since 1993. Iron exports were also at their lowest point since 2010, and general freight, which includes agricultural and manufactured goods, reached its lowest levels since World War II. "In terms of logistics, it was the worst year we've ever had. However, government has proposed a complete overhaul of the system through the Freight Logistics System Roadmap, which involves significant private sector investment." Cabinet approved this plan in December 2023.

Until last year, Transnet's management, following state capture, lacked competence, resulting in further infrastructure decline and a toxic management environment. Fortunately, a new board, chaired by Andile Sangqu since July 2023, has taken a hands-on approach to matters. The new group chief executive officer of Transnet SOC Ltd, Michelle Phillips, assumed her position on 1 March this year along with Russell Baatjies, who became TFR's chief executive on the same day.

According to Prof Havenga, these individuals understand the business

*Wandile Sihlobo.*

## Interventions bearing fruit

According to Wandile Sihlobo, chief economist at Agbiz, some interventions are having a direct positive impact on agriculture in South Africa and beginning to bear fruit. At this year's National Wool Growers' Association conference, he said that exports generated a record amount of US$13,2 billion in 2023, the result of a rise in volumes and prices.

Moreover, in the first quarter of 2024, South Africa's agricultural exports increased by 6% year-on-year, reaching US$3,1 billion. This increase is due to the relatively higher volume and price of exported products. The products leading the export list were grapes, apples and pears, peaches and apricots, maize, wine, sugar, wool, and fruit juices, among others. "We need efficient ports to export goods from our country," Sihlobo said.

"Although the volumes of agricultural products at some ports have declined since April this year, we have noticed some improvement at our ports in terms of delays. Hopefully, this will continue to improve under the new administration. Also, thanks to the new management at Transnet, we are witnessing positive developments and general improvements."

and know what they are doing. "Phillips and Baatjies started in their respective positions in November last year and were permanently appointed this year. We cannot expect them to fix everything overnight, but they have already contributed greatly to improving the system."

## Establishment of NLCC

Another positive development is that Business Unity South Africa has requested president Cyril Ramaphosa to establish a National Logistics Crisis Committee (NLCC) – the NLCC was realised in June 2023. The president chaired the NLCC meeting on 28 March this year, during which he was updated on the progress made and challenges remaining within the freight logistics system. The NLCC is tasked with providing feedback to the president every six weeks, a process he insists on in a bid to closely follow developments. The presidency is driving economic reform relentlessly.

"We are starting to see results," says Prof Havenga. "The country now has a combination of Transnet, the Department of Transport, government, and the presidency closely working together to try and rectify the issues brought about by the previous management."

## Private-sector trains

The challenge now, according to Prof Havenga, is securing new investment in the railway system. "There is a split on the horizon between Transnet's infrastructure and operations. This means government will own the infrastructure and have managers who will maintain it, while private-sector entities will operate the trains. Some issues still need ironing out, including the urgent need for network repairs and reaching an agreement on the current high access charges for private sector trains."

Regarding the grain industry, one of the main advantages will be a much more effective and affordable means of transport from the farm to the miller. Additionally, the flow of production equipment to and from the farm will also be much improved. "In the long run, we are hoping to see the benefits of long-distance train transport connecting silos, cities, and import and export centres, ultimately reducing trucks on our national and rural roads."

In Kraaifontein in the Western Cape there are ongoing discussions and considerations regarding the implementation of a terminal system. Under this system, produce would be delivered, either by train or truck, and stored for a stipulated period. The goods would then be transported by train to various ports for direct loading onto ships.

This means trucks would not necessarily have to physically deliver produce at a port, thereby alleviating traffic congestion in Cape Town. "We can, for example, extend the terminal system into a system of satellite terminals in fruit production regions such as Grabouw, Elgin, Ceres, and Malmesbury. We can look at agro-logistics as something resembling a landscape puzzle. Once you have found the key to fixing the problem or challenge in front of you, another door will open, and if you look long and hard enough, you will find the perfect solution to the next hurdle in your way."

For more information, contact Prof Jan Havenga at janh@sun.ac.za, or Wandile Sihlobo at wandile@agbiz.co.za.

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# Sea freight rates: Impact on the importation of raw materials

*By Lucius Phaleng, trade advisor, Animal Feed Manufacturers Association*

The animal feed industry is a crucial component of the global food supply chain, ensuring the health and productivity of livestock. A significant portion of raw materials used in animal feed are imported via sea freight.

Sea freight is the backbone of international trade, serving as a fundamental method for transporting goods across the world's oceans and seas. This mode of transportation involves the loading and shipment of cargo on ships, which come in various types, including container ships, bulk carriers, and specialised vessels for specific cargo types. Consequently, fluctuations in sea freight rates and capacity can profoundly impact animal feed producers' cost structure and supply reliability.

Sea freight rates and capacity heavily influence the global trade landscape, playing a crucial role in the movement of raw materials across international borders. This article explores the dynamics of sea freight rates, the factors influencing capacity, and their effects on importing raw materials for the animal feed sector.

## Impact of disruptions

In recent years, the sea freight industry has experienced substantial volatility. The unseasonal increases in demand for ocean freight out of Asia are due to the possible start of a restocking cycle in Europe, and a pull forward of peak season demand by North American importers out of concern over labour or Red Sea disruptions later in the year.

The disruptions are putting additional strain on a container market already stretched thin by Red Sea diversions. Carriers are still facing a capacity shortage, even after new vessels have been utilised to add more ships to rotations and accommodate longer journeys around the South of Africa.

This shortage is leading to late arrivals and port omissions as carriers skip some port calls to try and keep up with weekly schedules at major hubs. The delays and omissions are contributing to reports of empty container shortages and congestion due to vessel bunching at some ports in China, with congestion also a problem in Singapore and Malaysia.

## Turbulent times

Between 1 April and 22 May, average spot rates from the Far East increased in North Europe (+31%), the United States (US) West Coast (+30%), the US East Coast (+22%), and the Mediterranean (+25%). There is also an increased challenge with importing products due to shipping delays and poor-performing ports. If the current crisis persists, the situation is such that the industry has sufficient capacity to navigate around Africa. This will come at a price in terms of both longer sailing times and higher costs. The immediate short-term effect is rapidly rising spot rates.

However, it should be noted that the current situation requires the use of all available capacity, and that freight rates are expected to remain significantly higher than in May this year. The increasing rates and carriers are deploying capacity to the higher yielding trade, which is not good news for South Africa.

The market is currently experiencing a turbulent time with an increase in the number of blank sailings, continuous operational constraints across South African ports, and steep freight rate increases. It is anticipated that market conditions are going to remain challenging over the coming months.

Our members who import raw materials must proactively plan their shipping schedules, arrange for timely orders, and ensure adequate stock levels to mitigate any potential disruptions caused by harbour inefficiencies, a shortage of physical containers, and delayed shipments due to longer travelling times due to Red Sea airstrikes and subsequent huge increases in container cost.

For more information, email Lucius Phaleng at trade@afma.co.za.

# Comments on emissions targets

*Supplied by Agbiz*

Agbiz recently submitted written inputs on the *Draft Sectoral Emission Targets Report* to the Department of Forestry, Fisheries and the Environment (DFFE). We expressed support for inputs made by organisations we collaborate with as a sector, including Agri SA, and various industry associations within the agricultural value chain.

Agbiz consulted with the former Department of Agriculture, Land Reform and Rural Development or the DALRRD (now the Department of Agriculture) and requested additional time for an in-depth working group with the department to develop evidence-based recommendations on the sectoral target for agriculture.

Given the agricultural value chain's large and diverse nature, Agbiz emphasised the need for sufficient time for each subsector to present evidence-based input on their ability to mitigate greenhouse gas (GHG) emissions and the associated costs.

Agbiz strives to work closely with the Department of Agriculture to establish sectoral emissions targets (SETs) and policies and measures (PAMs) that are scientifically sound and economically feasible. We requested a conversation between the relevant government department and the industry, as the draft agricultural emission targets did not seem to take into consideration the complex economic sub-sectors (such as horticulture, crop production, livestock, and forestry). This makes it challenging to determine what is scientifically possible versus what is reasonably practicable.

## SET target for agriculture

The report proposes a 0,7 Mt $CO_2$-eq reduction by 2025, another 0,6 Mt $CO_2$-eq by 2030, and a cumulative reduction of 3,4 Mt $CO_2$-eq from 2025 to 2030.

In comparison, Europe's *Effort Sharing Regulation* sets binding annual GHG emission targets for member states from 2021 to 2030, with targets set per country and sector. The European Environment Agency expects that additional measures will significantly impact agricultural emissions in Austria, Croatia, Denmark, Finland, Germany, Spain and Sweden, with reductions of 10% or more by 2030 relative to projections based on existing measures.

## Trade-offs between sectors

Agbiz believes that when calculating SETs, the department should consider the expansion plans and trajectories of different sectors and engage independent third-party verification organisations for accurate and transparent emissions data. As South Africa transitions from an emerging market economy to a developed nation, the economic contributions of different sectors will change.

The just transition recognises that certain industries will decline (sunset industries) while others, such as agriculture (a sunrise industry), must grow to absorb reskilled labour from sunset industries. Therefore, agriculture needs sufficient carbon space to accommodate this growth. Trade-offs between sectors are necessary, as the carbon space occupied by an industry is unlikely to remain static in relation to other industries. The SETs must likewise anticipate these changes and avoid a situation where the domestic and international competitiveness of an economic sector is artificially influenced by the carbon space allocated to that industry.

The interaction between SETs and other mitigation measures, such as carbon budgets, must be considered. Carbon budgets are allocated based on current carbon footprints and the SET for any sector must be greater than the sum of all carbon budgets to make space for new entrants.

## Realistic mitigation potential

It is important to ensure a measure of equality and fairness between economic sectors when calculating SETs. Not all economic sectors have the same mitigation potential. Hence, substantive equality must be applied, which treats different sectors differently to even the playing field; this should be preferred over formal equality, which treats all sectors the same irrespective of their mitigation potential.

The draft document shows some differentiation between sectors but lacks explanation. Sectors such as energy have the Integrated Resource Plan outlining our future energy mix and investments required to reach the desired energy mix. The agricultural value chain lacks such a plan.

The National Business Initiative's (NBI) Just Transition Pathways project is a first attempt at outlining realistic GHG mitigation potential for key subsectors such as livestock and fertiliser through technological advances and better prices. Additional reductions can only be achieved by shrinking the sector, which is not a viable option given the importance for the economy, job creation, and the cultural importance of livestock in particular.

A vital conversation between government and industry is needed to assess the scientific versus realistic mitigation potential, as the current report does not clarify where the SET stands on the continuum.

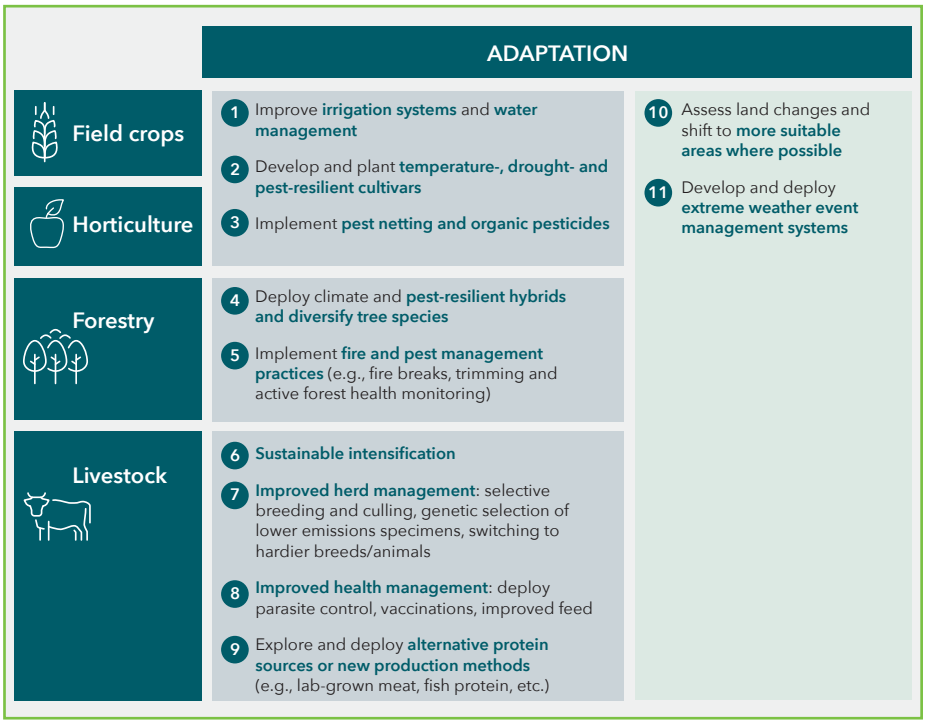
## Policies and measures

The report suggests utilising instruments in the agricultural sector to help achieve targets. It would be useful to better understand how these instruments will be utilised in practice to achieve this goal.

The *Preservation and Development of Agricultural Land Bill [B8-2021]*, approved by Parliament, is highlighted. Agbiz will collaborate with the Department of Agriculture to ensure that the current mechanisms can be utilised effectively. In addition, a comprehensive consultation process is required between industry and the department to develop additional instruments, even post 2030, to incentivise mitigation measures.

Practises such as carbon sequestration, improved rangeland, and pasture management can play a big role in reducing GHG emissions, but this comes at a cost.

**Figure 1: NBI report on decarbonising the agriculture, forestry and land use sectors in South Africa. (Source: NBI-BCG analysis)**




Significant research has been done to showcase the potential of new technologies and infrastructure. However, this merely presents the potential that is scientifically possible; more research is needed to determine how these measures can be financed to avoid stranded assets and to ensure that resource-constrained small businesses can access the same technology.

There is a significant risk that the costs involved in the just transition may perpetuate inequality in the sector. Agbiz believes that PAMs can be developed to assist in this transition. The Agro-energy fund launched by DALRRD and the Land Bank is a good example but has not been listed as a PAM.

## Proposed solutions

A recent intergovernmental panel on climate change (IPCC) special report on global warming confirms there is an important role for land use sectors in stabilising global temperatures (IPCC, 2018). Four broad options could be implemented in the agriculture sector to mitigate GHG emissions. The first two encompass supply-side measures and the latter two cover demand-side measures:

- Introduce farm practices that reduce agricultural non-$CO_2$ emissions, including methane ($CH_4$) and nitrous oxide ($N_2O$).
- Introduce practices to remove $CO_2$ from the atmosphere, storing it in vegetation and soils, or reducing emissions from carbon stock degradation.
- Introduce measures that encourage consumers to shift to healthier, lower-emission diets.
- Introduce measures that reduce product losses along food supply chains and food waste by consumers.

## Net-zero strategies

There are several strategies to achieve net-zero emissions in agriculture. Connecting measures key to achieving net-zero agriculture include carbon-free energy, smart and sustainable irrigation, and carbon removal.

Agbiz supports the recommendations contained in the 2015 *Draft Climate Change Adaptation and Mitigation Plan for the South African Agriculture and Forestry Sectors*. Key points include:

- Climate change mitigation in agriculture in South Africa should be pursued as part of the climate smart initiative to promote an integrated approach to sustainable agriculture to build synergies and avoid conflicts between climate change mitigation and other policy objectives, and to avoid offsetting mitigation efforts through intensification of production or land use change.
- The protection and preservation of existing carbon stocks need to be considered as a mitigation priority since the protection of soils rich in organic carbon (i.e. with humic and organic topsoil in the South African soils classification), as well as wetlands and certain grasslands, would bring great benefits for mitigation.

Agbiz acknowledges that there is a need to find cost-effective ways to address agricultural emissions. This needs to be done in a way that does not compromise other objectives such as food security, competitiveness, and poverty alleviation.

According to a NBI study: "Best practice livestock health, feed, manure, and breeding management can eliminate 19% of annual emissions, while sustainable land and fertiliser management and integration of renewable energy to meet energy demand can eliminate 17 and 19% of annual emissions, respectively."

## In summary

Sectoral emission targets are directed at government departments and not businesses, but it does impact the sector indirectly. For this reason, Agbiz has taken the initiative to consult with DALRRD to obtain a better understanding of the rationale underpinning the published targets. A similar discussion involving the DFFE would be welcomed.

Agbiz believes that SETs and PAMS must be the result of proper consultation between the sector and the Department of Agriculture. More time is required to get to well-researched and agreed-upon SET targets. This can take place after initial written inputs have been received but the industry and the Department of Agriculture must be given a realistic timeframe within which to work.

For more information, send an email to Annelize Crosby at annelize@agbiz.co.za or Theo Boshoff at theo@agbiz.co.za.

# Value the free market

*By Wessel Lemmer, general manager, Agbiz Grain*

South Africa's unique free-market system ensures food security in our country. Understanding the industry's history and appreciating the effectiveness of our current free market system is crucial. The Johannesburg Stock Exchange (JSE) facilitates timely price discovery based on the timely provision of accurate market information relating to supply and demand.

This information is currently provided by the National Crop Estimates Committee, the South African Grain Information Service, as well as the National Agricultural Marketing Council's (NAMC) Supply and Demand Estimates Committee. Before the planning of the single-channel marketing system in 1947, these institutions were not yet established.

The Union's *Marketing Act, 1937 (Act 27 of 1937)* was modelled on similar legislation, aimed at establishing product and marketing boards, in Britain, Canada, and the Netherlands during the early 1930s. Like these countries, the aim of the *Act* resulted from local producers' need to improve their negotiation skills regarding the sale of their products. Before World War II, producers generated surpluses at unsustainable low prices.

## The case for price stability

During the war years, the government increasingly intervened in the free market system. Measures included production quotas, concessions allowing grain delivery with moisture percentages exceeding 12,5%, and price control. However, in 1947 it was acknowledged that achieving absolute price stability through organised marketing was impossible. Nonetheless, even partial stability would be a significant improvement. Notably, South Africa was a net exporter of maize before the war, and prices surged during wartime.

Based on wartime experiences and substantial losses by various schemes, the government believed that implementing a single-channel marketing system would enhance stability and limit the uncertainty associated with the free market. In contrast to this, the archives of Uniegraan and the co-operatives that were members of Uniegraan, indicated that government interference with various schemes in the free market at the time led to even greater price instability and losses. With the implementation of the single-channel marketing system, such as the Maize Board, Uniegraan's members had to act as agents for the different boards.

South Africa was inclined towards the controlled marketing systems followed in Europe, rather than the free-market systems the United States and Argentina made use of. Delegates from the French co-operative Terrena recently visited South Africa, and while standing in front

**Table 1: Producer price indices for food products in the Union during and after World Wars I and II. (Source: *Unie van Suid-Afrika, 1947, Verslag van die Nasionale Bemarkingsraad oor die Bemarkingsrade 1938 tot 1946*, Cape Times Ltd, Cape Town)**

| Season | Summer grains | Winter grains | Hay | Potatoes, onions, dried beans | Dairy products | Slaughter animals | Poultry and eggs | Combined index |
|---|---|---|---|---|---|---|---|---|
| 1913 – 14 | 99 | 114 | 126 | 129 | 105 | 95 | 193 | 112 |
| 1914 – 15 | 81 | 141 | 125 | 124 | 112 | 93 | 169 | 110 |
| 1915 – 16 | 74 | 155 | 114 | 128 | 125 | 106 | 159 | 115 |
| 1916 – 17 | 108 | 170 | 142 | 136 | 117 | 106 | 175 | 129 |
| 1917 – 18 | 119 | 166 | 116 | 129 | 125 | 133 | 176 | 138 |
| 1918 – 19 | 114 | 159 | 153 | 158 | 134 | 146 | 195 | 144 |
| 1919 – 20 | 192 | 248 | 282 | 215 | 232 | 179 | 241 | 212 |
| 1920 – 21 | 205 | 169 | 173 | 208 | 169 | 140 | 244 | 180 |
| 1921 – 22 | 98 | 117 | 132 | 118 | 105 | 90 | 170 | 109 |
| 1936 – 37 | 119 | 83 | 95 | 93 | 86 | 89 | 102 | 98 |
| 1937 – 38 | 86 | 112 | 112 | 118 | 112 | 105 | 107 | 103 |
| 1938 – 39 | 94 | 106 | 96 | 89 | 102 | 106 | 94 | 100 |
| 1939 – 40 | 84 | 111 | 77 | 95 | 105 | 106 | 89 | 98 |
| 1940 – 41 | 107 | 117 | 106 | 156 | 108 | 110 | 103 | 112 |
| 1941 – 42 | 117 | 141 | 143 | 203 | 131 | 135 | 136 | 135 |
| 1942 – 43 | 159 | 153 | 144 | 159 | 147 | 168 | 167 | 159 |
| 1943 – 44 | 168 | 181 | 137 | 212 | 154 | 185 | 188 | 177 |
| 1944 – 45 | 183 | 181 | 160 | 281 | 177 | 178 | 184 | 185 |
| 1945 – 46 | 198 | 188 | 164 | 312 | 198 | 184 | 170 | 195 |
| Weights | 28 | 20 | 3 | 5 | 9 | 26 | 9 | 100 |

of AFGRI's Bronkhorstspruit grain silos, one of the delegates asked me who the grain in the silos belongs to. In France, producers are not allowed to sell their own products. After delivery to the co-operative, the grain belongs to the co-operative, which handles marketing and sales, unlike in South Africa where the product does NOT belong to the silo owner.

A cash market, and shortly thereafter, a futures market for maize have been trading on the Chicago Board of Trade since 1848. Interestingly, it has been a century after 1848 since the South African government, despite Uniegraan members' views in favour of maintaining a free market, increasingly idealised a single-channel marketing system. The Kansas City Board of Trade was established in 1856, and the Rosario Futures Exchange has been trading maize since 1909. The South African Futures Exchange (Safex) was only established in 1995/96.

## Report reveals challenges

The 1948 report from the Marketing Council to the minister of agriculture at the time indicated that, due to fundamental reasons, controlled prices must align with the general price level. However, organised marketing efforts were necessary for preventing disproportionate price declines and excessive increases during periods of prosperity. According to the *Marketing Act*, the boards were responsible for setting prices, but this could only take place with the approval of the minister of agriculture and forestry.

The report also indicated a noticeable lack of data (market information) for the purpose of price determination. The maize data was even less comprehensive. The Marketing Council, despite being responsible for generating such data, lacked the staff to regularly assess processing and distribution costs. Moreover, the Marketing Council did not directly calculate the costs of agricultural products either; instead, they relied on the economy and markets division. Unfortunately, this division was also understaffed due to personnel shortages during the war – this fact was highlighted during the advocacy for resources to ensure the future success of a single-channel marketing system.

In hindsight, considering we had our current institutions e.g., the JSE (Safex), South African Grain Information Service (Sagis), NAMC S&D Committee, Southern African Grain Laboratory (SAGL), Crop Estimates Liaison Committee (CELC) and Grain SA's Market Info funded by the industry, we could argue that South Africa could have remained a net exporter at profitable margins realised by producers together with sufficent food security during the war years, especially given the prevailing high global prices at the time. This success could have been achieved without the losses incurred by the schemes, for which consumers had to bear the burden. Before the war, exporting surpluses that could not be sold locally at profitable prices was common practice.

## Single-channel marketing promoted

During the war, systems were introduced for announcing wheat and maize prices before the planting season commenced in order to promote expansion. This generated considerable interest, especially as to whether it could be continued and maintained as part of the policy for greater price stability (the system had already been accepted in Britain).

Due to, among other things, South Africa's volatile climate, the Marketing Council believed that a policy promoting future price determination should be avoided at all costs, as it could easily jeopardise maintaining an accurate price range. If there were to be significant losses, which was highly likely, maintaining organised marketing would come under threat.

At the time, the reasons for not continuing with a single-channel marketing system were clearly illustrated. Instead of abandoning the idea of a single-channel marketing system in favour of an efficient free-market system, it was further argued that a single-channel marketing system should be fully developed to overcome the challenges thereof.

Producers should rather have the assurance that the production costs and general price trend will be taken into account as far as possible when determining seasonal prices, considering the balance that exists between the production level and demand.

There were a few proposals for a levy recovered from the producer price, with the consent of producers, to create a stable fund. Experience showed that organisations (such as inclusive product councils such as the Maize Council) would be responsible for managing seasonal prices.

As a result of the fluctuations in supply and demand in the free market, the boards would face significant financial risks, which would be significantly more if prices were fixed in advance. The organisation or boards had to co-ordinate the supply of stock, absorb surpluses, and transfer them to the next marketing year.

## Navigating climate change

The French delegation who recently visited AFGRI also wanted to know what South African producers and other role-players in the value chain are doing to manage climate change. In the short term, we have to adapt before tackling the next production year. Long-term climate change is a secondary priority. South African producers do not benefit from production conditions and government subsidies as French producers do.

For us, the free market is our greatest ally in stabilising our producers' income. Prices may be higher in years with shortages and lower when there is a surplus, but on the long term there is more stability when it comes to production income. We prioritise keeping up with our international competitors by utilising the latest technology and cultivar development to yield more adapted cultivars.

It once more underlined the importance of embracing the free-market system. We must safeguard the institutions that maintain South Africa's free market in the grain and oilseeds industry. They should not struggle as a result of inadequate funding or a lack of oversight and participation.

For more information and references, send an email to Wessel Lemmer at wessel@agbizgrain.co.za.

INTRESO GROUP

# BLUEFUME®: Pest control with a conscience

Stored product pests, including insects and rodents, are an unwanted presence in areas where food and other edible commodity products are stored. Not only do they often damage the product, but also the equipment within these structures.

In a rapidly changing world regarding environmental stewardship and crop protection for an ever-increasing population, more and more industries are adopting BLUEFUME®, a highly effective and environmentally sustainable option for the treatment and control of stored product insects, mites, and rodents.

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BLUEFUME® is a rapid-acting fumigant used for the treatment of empty structures (i.e. industrial buildings, processing plants, flour mills, silos, poultry sheds, and ships). It can also be used for fumigation of fresh produce commodities (i.e. bananas and pineapples). BLUEFUME® is used globally and is known for its high efficacy, low dose rate, easy application, and minimal environmental footprint.

## BLUEFUME® advantages

- Broad spectrum fumigant: Effective against stored insects (all life stages), fresh fruit and domestic insects, rodents, and mites.
- Minimal environmental impact: Negligible greenhouse gas effect as well as non-ozone depleting.
- Exceptional efficacy: Proven efficacy against all life stages of stored product insects and rodents.
- Cost-effective: Highly cost-effective treatment, resulting in significant cost savings not only in the product but also in time.

## Did you know?

Hydrogen cyanide (HCN) was the first industrially recognised fumigant, dating back to 1866 in California, United States. Cyanogenic glycosides (compounds that develop into HCN) are common protective agents found in nature – some plants and insects can synthesise this into HCN to deter predators. HCN-based fumigants have been used globally for decades with a recent global resurgence.

Cyanides are substances consisting of carbon and nitrogen, which are abundant in nature. Although flammable, HCN as a fumigant is applied at low concentrations, posing minimal risk. Over 80% of the human population can detect the smell of HCN. Our bodies can process and eliminate low concentrations of HCN, preventing accumulation in the body and long-term effects. Most of the world's HCN is produced by natural events such as forest fires.

## BLUEFUME® benefits

HCN has been used for more than 150 years as a specialist pest control option. Here is why:

- Exceptionally effective, broad-spectrum fumigant suitable for empty structures and fresh produce.
- An alternative to existing harmful fumigants.
- No long-term effects on the human body.
- Outstanding ovicidal effects.
- No build-up of resistance by pests.
- No heating equipment (vaporiser) is required during application.
- Targeted distribution system using application nozzles for highly infested areas.
- Comparatively shorter application time.
- Shorter treatment time (24 hours) reducing facility downtime.
- No corrosion effects on metals or other materials during treatment.
- Lighter than air, ensuring faster and safer ventilation for bystanders and surroundings.
- Option to set up permanent systems allowing seamless preparation and faster application.
- Available in two product packages (discoids and cylinders) for ease of use.
- Includes dose monitor and safety detector for safe use of the product.

## BLUEFUME® application

The application method of BLUEFUME® has been redeveloped and modernised to adhere to 21st-century safety requirements. BLUEFUME® application is based on vaporising HCN through fogging or atomising nozzles located in the treatment space and connected to lightweight composite BLUEFUME® cylinders by a system of distribution lines.

BLUEFUME® application is backed by INTRESO's extensive consulting, installation, safety training, and support services. Follow the product label recommendations to achieve maximum control of the target organisms.

## Take action

At INTRESO, we believe in our products and the power of BLUEFUME®. Through its effectiveness, short exposure period and outstanding efficacy, BLUEFUME® stands out among other fumigants currently on the market. BLUEFUME® gets the results without being an ozone-depleting chemical.

## About INTRESO

INTRESO provides global trial support, application and product development consulting, as well as registration and business and commercialisation development support for suppliers, distributors, and customers.

Draslovka's product portfolio of environmentally sustainable fumigants and biocides, EDN®, BLUEFUME® and eFUME®, and its vertically integrated application services in Europe fills a gap in the industry between the manufacturer and end-user. This enables a direct link to ensure seamless custom application development and field trial support.

For more information, contact 083 251 1221, email cole.stanton@intreso.com or visit *www.intreso.com*.

# Malting barley research focusses on storage practices

*By Dr Renée Prins, director, CenGen*

The storage potential of malting barley is crucial for the sustainability of the malting barley storage industry. Barley is purchased at malting barley prices, but often, after a brief storage period in silos, it fails to meet the required 97% germination energy (GE) industry standard. Consequently, it is downgraded to feed barley at great cost.

This standard differs from the 95% GE regulation published in 2013 in the *Government Gazette*. According to Agbiz Grain estimates, malting barley storage operators have lost approximately R267 million in a six-year period (from the 2016/17 to 2021/22 season).

Various factors may contribute to GE issues, including environmental factors during the growing season, conditions at harvesting and during grain storage, as well as the duration of storage in silos. In addition, the perception exists that the genetics of barley cultivars play a role.

## The CenGen study

In 2023, the malting barley storage industry sought clarification from CenGen on these complexities. The South African Winter Cereal Industry Trust (SAWCIT) approved a six-month project for 2024, bringing together barley industry experts and international scientists to systematically identify causes and solutions during a comprehensive research project.

South Africa's barley industry faces unique challenges. For example, all barley produced in the country must adhere to malting barley requirements; otherwise, it has to be sold as feed at a much lower price. In contrast, countries such as Australia select only the top harvest for malting while the rest sell well in the animal feed industry.

The objective of this study was to assess whether and how the genetics of existing barley cultivars impact their storage potential. The study involved a two-pronged approach. Firstly, role-players were consulted widely to develop a new project proposal aimed at evaluating the storage potential of current South African commercial barley cultivars, and to determine which factors' influence the study should investigate.

The second aspect involved a detailed examination of the genes that might play a role in the storage potential of malting barley.

## Storage practices in South Africa

Despite the myriad factors that impact grain's storage potential, it is well known that the moisture content and temperature during storage significantly influence the period during which seed maintains its GE potential.

Researchers adopted an approach that minimised environmental influences to assess the genetic storage capacities of different barley cultivars. They obtained seed samples from both dryland and irrigated trial areas for storage tests. The trial seed from a single locality usually has the same moisture content, implying that the cultivars that are part of the storage trial were exposed to the same growth and harvest conditions.

The storage trial was conducted at the agreed-upon storage temperature, aligning with the practices followed by malting barley storage operators. In addition, a storage test focussed on elevated temperatures was conducted in collaboration with Dr Idelet Meijering, former chief maltster at AB InBev. The study results may contribute to the development of an accelerated ageing test that silos can use to quickly verify seedlot GE.

## Gene study reveals dormancy facts

The introduction of the precise DNA sequence of the barley plant's genome has ushered in an unprecedented era of gene data. Supported by SAWCIT, and other initiatives funded by the United Kingdom (through the British Council and British High Commission), South African geneticists have developed the expertise to unlock this valuable data.

In this study, researchers focussed on the role of dormancy in barley seed, an essential factor before and after harvest. Seed that remains dormant cannot germinate under conducive conditions despite being viable, while non-dormant seed germinate more quickly (germination ready) than dormant (non-germination ready) seed after harvesting.

By studying these genes, the CenGen team gained insight into the dormancy status of South African barley cultivars. They found that most seed exhibit a gene that places it in the dormancy class, providing better protection against pre-germination – a phenomenon which occurs when nearly harvest-ready barley becomes wet and sprouts on the ear.

Sometimes this sprouting is visible (pre-harvest sprouting) and other times not, which is known as 'pre-germination'. Depending on the degree, both these conditions can cause seed to initially meet the standard germination requirements shortly after being harvest. However, after a brief storage period at an elevated temperature, their GE is completely lost.

It was also evident that some of these genes are highly complex, with varying numbers of copies and different forms. The current DNA markers are insufficient to observe this phenomenon. Consequently, CenGen has developed a second project proposal for creating a new method to further study one of these key genes in the South African barley population. If funding is received, CenGen will utilise an instrument of Prof Rabia Johnson at the South African Medical Research Council in Cape Town.

## Collaboration is key

This initiative exemplifies how diverse role-players with sometimes conflicting interests can come together to form a united front. Their goal is to develop scientifically based, yet practically focussed, projects to illuminate potential factors contributing to the GE issue in malting barley.

For more information, contact Dr Renee Prins on 082 835 2703.

# White wheat or white knight?

*By Susan Marais, Plaas Media*

South Africa's primary wheat industry is working hard at introducing white wheat cultivars into the local production mix in a bid to ease its profitability struggles. However, this is easier said than implemented.

Currently, only red-seeded germplasm is being commercialised in South Africa, according to Dr Francois Koekemoer, director of wheat research and development at Sensako. "This decision was taken more than two decades ago while the Wheat Board still existed." At that stage, 65% of the wheat hectares planted in South Africa were dryland winter wheat varieties. Wheat-producing regions harvested the crop from the end of November until the end of February the following year, amid those summer rainfall patterns.

Major wheat-producing regions in South Africa, such as the Western Cape with 365 000ha and the irrigated areas with 120 000ha, are planted to spring varieties. The dryland winter wheat component in the Free State is less than 70 000ha.

## Profitability challenges

Andries Theron, a wheat producer from Moorreesburg in the Western Cape, says the South African wheat industry has been experiencing serious profitability issues this past decade, mainly due to rising input costs, and huge fuel, irrigation and electricity price increases. Furthermore, producers need to cope with climate change.

"Aside from having to control this, producers also need to compete with imported Black Sea wheat, which has the advantage of substantially cheaper fuel and fertiliser production inputs and better climate conditions ensuring improved yields and more certainty."

These issues are some of the main reasons why local wheat production is not expanding, and the fact that South Africa has to import 50% of the local wheat demand is therefore not surprising.

## A turnaround strategy

"I have initiated, in conjunction with a dedicated team from Grain SA and several value chain role-players, a turnaround strategy for the wheat industry which we've been following for the past ten years," says Theron. "Our main focus is higher yielding varieties for which we relax the release criteria without jeopardising the quality of our wheat."

The breeding and technology levy was implemented to pique the interest of South African wheat breeders. "Unfortunately, we did not achieve the expected results. The downward trend in production continued, especially in South Africa's northern region where producers remain negative about planting wheat. Going forward we have to implement drastic measures if we want to maintain current production levels and hopefully increase production to get to an 80% self-sufficiency level."

Theron argues that improving the yield, or yield stability, of wheat varieties will ensure greater profitability; it is the one thing that could change the current wheat situation for the better.

## Variation in colour

The term red- or white-seeded refers to the colour of the seed pericarp or seed coat, which is determined by three independent genes. Research supports the conclusion that the genes responsible for pre-harvest sprouting (PHS) are associated with – or nearby on the chromosome to – the genes responsible for seed-coat colour. Consequently, when breeders select for a white seed coat, they are also indirectly selecting for lower inherent dormancy. To produce wheat with a white seed coat the three genes related to seed-coat colour must be homozygous for white.

The red colour is dominant to white; thus, a single red gene results in some red colour. "The degree of red is additive, meaning that wheat lines with three red genes produce the darkest red seed. Generally, these lines exhibit higher dormancy due to the higher number of genes responsible for the red seed coat," Dr Koekemoer indicates. There is some variation between lines with the same number of red genes due to different gene forms.

There are also genes controlling dormancy that are independent of the colour genes, according to the technical publication *Virginia Tech 424-060* by Virginia Cooperative Extension. To develop red-seeded varieties from white-seeded ones, a backcrossing method needs to be utilised, which requires significant time and effort.

## A preference for white grain

"However, producers and the flour processing industries in China, India, and Japan prefer white-grained varieties due to their high flour yield, more efficient flour extraction, high ash content, a more favourable appearance and less bitter taste in the final product," Dr Koekemoer says. Most wheat export countries such

as Australia and Canada develop white-seeded varieties because most of the products they produce are primarily exported to countries such as China, Japan, and India.

"Most of the wheat varieties produced in Australia and developed by the International Maize and Wheat Improvement Centre in Mexico are white-seeded spring wheat types to satisfy their clients' requirements in these export markets."

During a visit to Australia in 2023, Theron spoke to numerous Australian wheat breeders. One of them was an ex-South African, and from the discussion it was obvious that the biggest progress in high-yielding varieties in Australia is made with the white wheat varieties. Germplasm development in these white lines also addresses the requirements of producers. This includes higher yields and disease resistance, as well as tolerance to certain stresses such as drought. "Australia's climate is similar to ours, so we have to focus on the successes they've achieved and bring this germplasm to South Africa."

## PHS headaches

For years PHS has been a major issue, especially in the Free State with its winter varieties. "This resulted in huge financial losses in yield and grading quality. To limit these financial losses, it was decided to only commercialise red-seeded varieties in South Africa," says Dr Koekemoer, adding that it is well known that red-seeded varieties are more tolerant to PHS than white-seeded ones.

PHS refers to the germination of wheat within the grain head before harvesting. "Periods of prolonged rainfall and high humidity after the grain has ripened and before it can be harvested contribute to PHS, which can be thought of as a premature germination."

Three to four weeks after flowering, wheat grains reach maximum size and begin to lose water as the ripening process begins. While the starchy endosperm cells die at this point, those of the seed-coat layer and embryo remain alive but dormant. Normally, this dormancy keeps the seeds from sprouting while still in the seed head. However, environmental conditions during grain development affect the degree of resistance to PHS.

"Generally, grain is more dormant (less likely to have PHS) when produced under cool conditions. Higher temperatures during the later stages of grain fill can result in lower grain dormancy, and this lower dormancy makes sprouting within the head (PHS) more likely if rain occurs before harvest." Individual grains within the seed head may have slightly different water availability and dormancy levels. Therefore, only a portion of the grains in an individual head, or the heads within a crop, may exhibit PHS.

## Capitalise on foreign research

Countries such as Mexico and Australia have invested significantly more in wheat research than South Africa. Therefore, the technological advancements related to wheat seed in these countries are something the South African industry would like to capitalise on. Leveraging this research could help address local industry challenges.

"If South Africa aims to benefit from the spring wheat varieties developed in countries such as Australia, then we will have to be able to accommodate white-seeded wheat germplasm," Dr Koekemoer emphasises.

The reason for the need to accommodate white seeds is the fact that it would take significant effort and time to develop red-seeded varieties from white seed, due to the dominance of the red seed colour over white. This will result in increased research expenditure for a low-margin crop. "Australia has excellent herbicide-tolerant, non-genetically modified organism wheat varieties that could significantly benefit South African spring wheat producers in their bid to control herbicide-resistant weeds."

Yet the industry still needs consensus on whether white-seeded varieties should be separated from red-seeded ones at delivery and if distinct grading regulations are necessary.

## Grading changes

Grain industry consultant, Dr Sierk Ybema, explains that South African wheat grading currently follows three different grading regulations: one for bread wheat, another for biscuit wheat, and a third for durum wheat. "Our local bread wheat cultivars are all red, and that was decided by the technical committee of the wheat industry. Australian bread cultivars are white, and biscuit or soft wheat is often white but can also be red."

South Africa has no biscuit wheat cultivars, and there are no special regulations for white wheat, according to Dr Ybema. "Durum wheat, which is naturally white, can appear darker if the kernels are hard. If bread wheat is white, the bread wheat regulation is applied. The same is true for biscuit wheat."

Theron says that recent re-evaluations of grading regulations have aimed to make them more producer friendly.

## Role of the storage industry

Theron indicates that if white wheat cultivars were to be grown locally, it would be crucial to keep the two varieties separate in storage structures. "The biggest danger that could jeopardise this initiative is the mixing of red and white, because this could be a reason why buyers would likely reject the wheat."

While Theron doesn't think that white wheat would replace red wheat, it would be a tool for producers to ensure profitability while hedging their risk. "In this respect, our silo operators played a major role in the past and if we are successful, they will have to play a crucial role again to ensure that the initiative is successful."

Realistically speaking, though, Theron does not see the commercialisation of white wheat cultivars happening in the next three years. Currently, small-scale experimental trials are being conducted, but this could be escalated quickly within a year or two. "Before this can happen, the entire industry must buy into the hard white-wheat idea."

Agbiz said that while it is premature to conclude the discussion on the storage of white wheat, it could be feasible to store separately if regional volumes support it. However, further investigation into grading regulations and falling number, among others, is needed before any final decisions are made.

For more information, email Dr Francois Koekemoer at francois.koekemoer@syngenta.com or Andries Theron at andriestheron@soutkloof.co.za.

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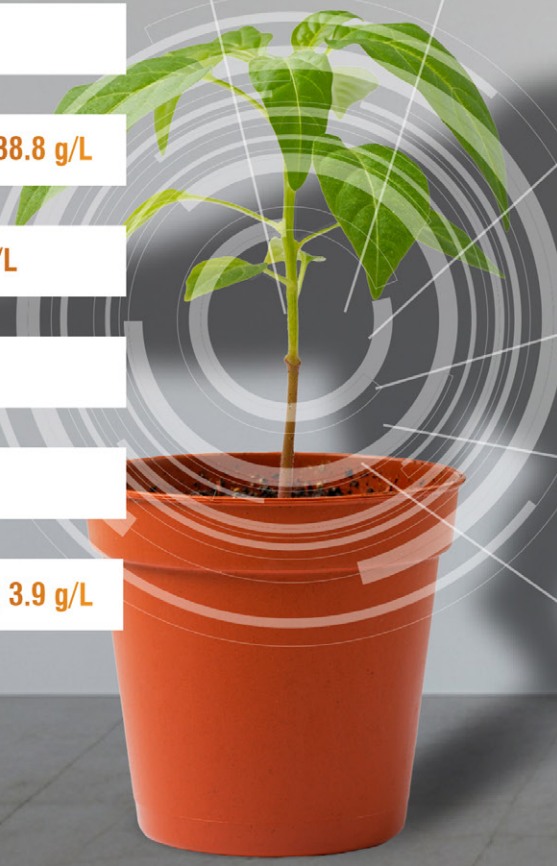

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# Tr-X technology: A super nutrient application

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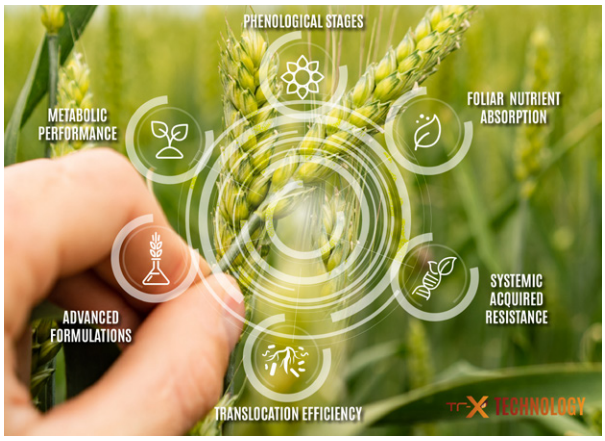


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- Highly concentrated nutrients with enhanced foliar absorption and translocation via plant-recognisable amino gluconate chelates.
- Synergetic delivery of phenological-specific nutrient combinations and plant-acquired resistance ingredients.
- Fulvic acid matrix boosting nutrient use efficiency and plant energy.
- Liquid blends suitable for soil and foliar applications allowing growth stage-specific intervention.
- Formulated with seaweed extract blends and L-amino acids to support the crops' natural immunity utilising systemic acquired resistance.

## Seaweed extracts

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## L-amino acids

Amino acids are the building blocks of proteins. Just like humans, plants need specific amino acids to thrive. While plants can manufacture certain amino acids (non-essential), others must be obtained from the environment.

In agriculture, amino acids can be applied at the critical phenological stage directly on the plant leaves or via irrigation systems. Amino acids can improve nutrient uptake by plants, making them more efficient with other fertilisers. Additionally, amino acids can promote growth and yield by stimulating root development and hormonal regulation. Most importantly, they can enhance plant stress resistance, helping them better withstand environmental challenges.

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# Grain fumigation training: The way forward

*Supplied by Agbiz Grain*

The recent communication from the former minister of higher education stating that none of the legacy unit standards and qualifications (registered before 2009) will be extended beyond 30 June 2024, has caused confusion and concern among training providers.

One of the training programmes affected is the grain fumigation training, an Agriculture Sector Education Training Authority (AgriSETA) accredited skills programme based on unit standards. These unit standards expired at the end of June this year, and AgriSETA has confirmed that it will not be extended under any circumstances. Any skills development professional (SDP) claiming to have received an extension is advised to contact AgriSETA for confirmation.

Agbiz Grain, represented by Wessel Lemmer and Lizelle Jacobs of MindAlive, held an urgent meeting with AgriSETA, represented by Minah Matloa, on 20 June this year to discuss the way forward and how to address the issue as a matter of urgency.

## Main points discussed

The old (legacy) unit standards used to train employees in the principles of grain fumigation, expired on 30 June this year. These unit standards are not eligible for renewal for the following reasons:

- They have been migrated to an occupational qualification called *Occupational Certificate: Pest Management Officer* (SAQA ID: 99513). This qualification also expired in June this year, but Matloa has indicated that the Quality Council for Trades and Occupations (QCTO) will automatically renew this qualification. The South African Qualifications Authority (SAQA) qualification does not indicate part-qualifications, and the QCTO syllabus/curriculum indicates that the qualification can be divided into part-qualifications.
- AgriSETA has indicated that this is a QCTO error and that the SAQA document always takes precedence over the QCTO curriculum when there are inconsistencies.
- This means that SDPs will not be able to accredit themselves for the part-qualification only, as previously thought and communicated. SDPs do have the option to apply for accreditation for the full qualification (Pest Management Officer).

## Occupational differences

This opened a new can of worms, as Leonard Henning from the South African Pest Control Association pointed out that the current occupational qualification for pest management officers was incorrectly scoped. The qualification cannot be fully implemented as pest management and fumigation fall within different occupational specialities. For example, a grain depot manager will never act as a pest management officer.

Fumigation of stored grain products is a function that the incumbent (or a delegated person) will perform as part of their responsibilities. The areas in which these functions lie are too diverse to be assigned to a single qualification.

This means that although Agri-SDPs can apply to the QCTO for accreditation for this qualification, they will never be able to train in the specific sector as it is not designed for the grain sector.

## Mitigating the situation

AgriSETA will submit an urgent application to the QCTO to de-register the *Occupational Certificate: Pest Management Officer* and replace it with individually registered skills programmes (qualifications) in the areas of pest management and fumigation.

Agbiz Grain will immediately begin scoping and structuring the curriculum and assessment criteria for the skills programme *Conduct Stored Agricultural Product Pest Fumigation Management*.

AgriSETA will fast-track the skills programme to ensure that SDPs can train in this area as soon as possible. It is almost impossible to commit to timelines as there are so many stakeholders involved in this process. However, SDPs should know that Agbiz Grain is committed to making this happen as a matter of urgency.

Agbiz Grain needs the following input from the grain and oilseeds storage industry and training providers concerned:

- Subject matter experts in the field and training providers will be required to attend the workshops where the new curriculum will be developed in accordance with QCTO requirements. Jacobs, an accredited SME curriculum development facilitator, will facilitate the process. Further information will be provided to interested parties.
- AgriSETA requires the industry to submit the revised skills programme curriculum, assessment standards, and standardised learning materials. This means that SDPs will have to use the same minimum required standard set of learning materials and will have to be innovative to differentiate their individual service.
- Subject-matter experts and training providers must share their materials to create standardised, industry-approved learning resources. AgriSETA will not allow SDPs to be accredited by the QCTO without the AgriSETA/grain storage industry-approved learning material accompanying the curriculum.

We are entering unchartered territory in the skills development landscape, but Agbiz Grain remains dedicated to continuing training and development in the grain storage industry. We need our members' support to achieve this.

Contact Lizelle Jacobs on 082 877 4461 or info@mindalive.co.za, Wessel Lemmer on 071 354 2948 or wessel@agbizgrain.co.za, or Annelien Collins on 083 204 9738 or annelien@agbizgrain.co.za.

# Weed seed contamination of grain: A risk analysis

*By Prof Charlie Reinhardt, North-West University*

Plants are anchored in the soil, making seed dispersal the main way they spread naturally. Weed seeds are dispersed naturally by water, wind, and animals. Artificial seed dissemination includes vectors that involve human-linked mechanisms such as clothing, vehicles, implements, and trading in grain commodities.

Besides seeds, weeds can be spread by the dispersal of vegetative propagation organs such as tubers and corms (plants with a swollen, underground plant stem). The latter weed propagules are relatively large compared to seeds, and are usually easier to detect and separate from grain.

Point-source type contamination of grain (cereals, oilseeds, pulses) with weed seeds happens at the crop field level, and line-source contamination of the environment can occur during the transportation of grain and livestock as bearers of weed seeds.

## Seed removal via grain screening

On-farm screening of grain to remove weed seeds, followed by screening processes at regional silos, is supposed to be the end of the line for foreign matter such as weed seeds, but this is often not 100% effective. Grain destined for local and international markets is typically cleaned at a series of elevators, and the degree and effectiveness of cleaning depend on weed seed characteristics and grain grade.

Weed seeds can escape grain-cleaning methods due to having the same shape, size, and/or mass (density) as a particular grain type. Examples of hard-to-separate seed types are those of wheat and the grass weed, ryegrass (*Lolium* spp) (*Photograph 1*). In addition, sorghum seeds will probably be tricky to separate from those of broadleaf weeds such as thorn apple (*Datura* spp) and Mexican thistle (*Argemone* spp) (*Photograph 2*).

Screenings of grain are often used to supplement livestock fodder and represent a serious weed dispersal risk. Seeds of *Lolium rigidum* (rigid ryegrass), a serious weed of small-grain crops in Australia and South Africa fed to cattle and sheep, appeared in their faeces within 24 hours of ingestion. The percentages of ryegrass seed excreted in manure were 10,8 and 32,8% for sheep and cattle, respectively. Seeds remaining viable (can germinate) after excretion were 3,9% (sheep) and 11,9% (cattle).

> Weed seeds can escape grain-cleaning methods due to having the same shape, size, and/or mass (density) as a particular grain type.

Even low seed numbers that survive animal digestive systems are sufficient to constitute a serious new weed risk at livestock and/or manure destinations. The survival of weed seeds in manure and compost differs from species to species. For example, the spreading of manure-based compost on crop fields is commonly the source of high infestation levels of pigweed (*Amaranthus* spp).

Grain screenings containing weed seeds have been continuously used to prepare solid rodent and termite bait products which in the past have been linked to infestation of areas with 'new' weeds.

## Weed seeds and harvesting

Weed seeds that end up inter-mixed with grain are usually those that have not been shed from plants before the crop was harvested and are carried at the same level where the maize cob or wheat ear is. This means that weed species producing seeds late in the growing season, or retaining seeds on the parent plant for long periods, are more likely to present grain contamination problems at harvest time.

Moreover, weed types that carry their seed at approximately the same level above the ground as that of the crop, are more likely to present a grain contamination problem. Therefore, tall growing weeds such as *Amaranthus* spp (pigweed), *Tagetes minuta* (khaki weed), and *Ipomoea* spp (morning glory) can be problematic in maize, whereas the smaller weed types such as sedges and grasses conduct their reproduction business closer to the ground.

However, in small-grain crops like wheat, grass weeds such as ryegrass and wild oats carry the seeds at roughly the same level as the crop. Hard-to-control weed species – especially those that escape weed control practices, either by emerging after

1

*Lolium spp (ryegrass) seed among wheat seed in a grain screening intended as fodder supplement. This practice is a risk for spreading not just the Lolium seeds but also herbicide-resistant weed species. (Photograph: Prof Charlie Reinhardt)*

2

*Left to right are the fruit and seed of Argemone ochroleuca (Mexican poppy), sorghum seed, and fruit and seed of Datura stramonium (thorn apple). (Photograph: Prof Charlie Reinhardt)*

control method efficacy has diminished or due to an acquired trait such as resistance to one or the other herbicides – present special challenges.

## Weeds entering virgin territory

Weeds that enter areas where they have not occurred before may establish and flourish under conditions that suit their growth needs, or else they may establish but due to poor adaptability never present a problem from a weediness point of view. Only those species that can maintain themselves in new environments and reach high infestation levels constitute a threat to either crops and/or natural vegetation.

Such new arrivals can increase crop production costs if they are difficult to control (e.g. herbicide-resistant weeds) or have characteristics that demand special attention (e.g. plants that are toxic to humans and livestock).

Grain is defined as "seeds intended for processing or consumption and not for planting" (International Plant Protection Convention, 2015). Producers unwittingly risk introducing weed seeds into their own and other producers' fields when they use grain as conserved or held-back crop seeds for planting purposes. Holding back grain for planting purposes is common practice in the case of at least wheat and soya bean in South Africa.

A study spanning 74 farms in the western Australian grain belt revealed significant amounts of seeds of different weed types occurring as contaminants of held-back wheat seeds. The study also showed that weed seed numbers in uncleaned wheat grain were on average approximately 25 times higher than in cleaned grain.

## Spreading of new weeds

South Africa acquired several new weeds during the Anglo-Boer War (1899 to 1903) when horses and their feed were imported from, among others, Australia and South America. Today, producers still battle with those weeds.

These days new weeds continue to reach our shores from time to time, many posing serious risks as alien invasive weeds. A relatively new and serious economic risk for producers is the arrival of crop weeds that are resistant to herbicides.

The spread of herbicide-resistant weeds can occur over short distances (field to field or farm to farm) and even country-to-country or continent-to-continent transfer is an alarmingly common occurrence these days. We can do without having to cope from the word go with new weeds that took several years to evolve herbicide resistance in their countries of origin.

As a first for South Africa, in 2018, our research team identified *Amaranthus palmeri* (Palmer amaranth), which is rated the United States' number one weed in terms of economic impact on especially maize, cotton, and soya bean production. It remains unknown how it reached South Africa, but this highly noxious weed with its proven herbicide resistance to several important herbicide types, poses an enormous risk to our agricultural sector.

Female Palmer amaranth plants can produce 300 000 to a million seeds per plant; the small (1mm diameter) seeds can be widely distributed by water, wind, birds, livestock, farm equipment, and crop produce (e.g. lucerne, cotton, and grain). Beware!

Prof Charlie Reinhardt is a professor in agronomy at North-West University, and research leader in the South African Herbicide Resistance Initiative (SAHRI) at the University of Pretoria (*www.up.ac.za/sahri*).
For more information, send an email to dr.charlie.reinhardt@gmail.com.

# Grading starts with a representative sample

*By Dr Hannalien Meyer, technical specialist, The Southern African Grain Laboratory*

The quality of bulk grain and oilseeds is determined by assessing the grading results of a sample taken at the point of delivery. It is important to note that bulk grain and oilseed consignments are rarely uniform, as they can contain impurities, foreign matter and contaminants that are not evenly distributed.

Disputes sometimes arise between suppliers and buyers when high percentages of screenings are reported, leading to the downgrading of the consignments. Therefore producers, handlers and traders must ensure that the sample taken for quality assessment represents the entire consignment accurately.

The industry uses different sampling probes to collect representative portions of the consignment and assign the correct grade during arbitration. However, the choice of probe is not always based on independent evaluation, which can lead to discrepancies in the grading results.

## Sampling probes

The Southern African Grain Laboratory (SAGL) is a non-profit company that evaluated three manual sampling probes (identified by Agbiz Grain handlers) and the Vac-A sampler. These manual probes are most commonly used for the sampling of soya beans, maize, sunflower, wheat or sorghum.

A double tube probe with multiple apertures, a double tube spiral probe with multiple apertures, a single tube with multiple apertures and an inner tube with no apertures were manufactured according to agreed specifications, and a Vac-A sampler pneumatic sampler with suction probe was purchased from Seedburo in the United States.

## Grain and oilseed samples

Known quantities of screenings were added to precleaned maize, wheat, sorghum, sunflower and soya beans at a low and high percentage screening. The screening levels of each of the five commodities were based on the current legislation for grading standards in South Africa.

The percentage of screenings added were confirmed with five replicate samples collected with the Boerner divider, determined as described in the grading regulations of the commodities. The mean values of the screenings of the five subsamples of each sample were used as the reference values to determine the accuracy of the samples collected with the four sampling probes.

## Probe sampling procedure

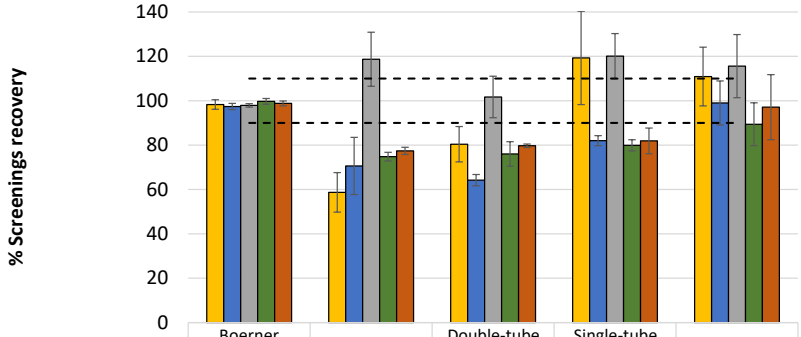
A cylindrical tube was filled with one of the ten samples with known percentage screenings. A sample probe was immersed in the sample and five replicate samples were collected with each sampling probe as shown in the picture of the Vac-A sampler double pneumatic suction probe. The percentage screenings were determined as described in the grading regulations of the specific commodity. The accuracy (% recovery) and precision of the screenings in the collected samples were calculated to establish if the sampling devices collect representative samples.

## Sampling performance

The results of the high percentage screening samples, compared with the percentage recoveries obtained with the Boerner divider, are summarised in *Figure 1*. The variation in percentage recoveries was commodity specific. The Vac-A sampler performed the best in the sampling of the percentage screenings in all five commodities.

Percentage recoveries ranged from 89% (wheat), 97% (sorghum), 99% (maize), 111% (soya beans) to 116% (sunflower) of the high percentage screenings added to the grain and oilseeds. The percentage recoveries of the low percentage screening samples collected with the Vac-A sampler ranged from 82 to 114%.

**Figure 1: High-level screening recovery comparison of grains and oilseeds with four different sampling devices.**




| | Boerner reference 2023 | Double-tube probe 2023 | Double-tube spiral probe 2023 | Single-tube with inner tube 2023 | Vac-A sampler 2023 |
|---|---|---|---|---|---|
| Soya beans | 98,3 | 58,7 | 80,4 | 119,3 | 110,9 |
| Maize | 97,4 | 70,6 | 64,2 | 82,0 | 99,0 |
| Sunflower | 97,9 | 118,7 | 101,7 | 120,1 | 115,6 |
| Wheat | 99,7 | 74,8 | 76,0 | 79,9 | 89,4 |
| Sorghum | 98,8 | 77,4 | 79,7 | 81,9 | 97,1 |
| +10% tolerance | 110 | 110 | 110 | 110 | 110 |
| -10% tolerance | 90 | 90 | 90 | 90 | 90 |

*The Vac-A sampler double pneumatic suction probe (Seedburo) and 200mm diameter cylindrical plastic container with the grain or oilseed sample.*

The single tube with multiple apertures and inner tube with no apertures compared the best of the three handheld probes. The apertures open from the bottom when the inner tube is removed, and a more representative sample is collected with recoveries reported from 82 to 120% for the high percentage screenings. No significant differences were found between the results of the high-level screenings collected by the Vac-A sampler and the single tube with an inner tube.

The percentage recoveries of the samples collected with the double tube probe and double tube spiral probe were lower. Only 59% of the high percentage screenings (broken soya beans) in soya beans were collected with the double tube sampling probe, and the double tube spiral probe collected only 64% of the screenings (broken maize kernels) in the maize sample.

## Conclusions and recommendation

The Vac-A sampler was found to perform the best in collecting a representative sample from bulk consignments of grains and oilseeds and should be the probe of choice to resolve disputes. In sampling environments without electricity, among the three handheld probes tested, the single tube with an inner tube proved to be the best probe to use.

The significant differences in performance between the probes investigated in this study underscored the importance of using the most accurate sampling probe to resolve disputes.

Agbiz Grain provided the funding for this study and approved the SAGL study report. In 2024 they invested in the manufacturing of 47 sampling probes according to the probe specification. These probes were distributed to Agbiz Grain's members along with a standard operating procedure (issued by the SAGL) for sampling grains and oilseeds. Agbiz Grain's members confirmed the practicality of using the single tube with multiple apertures and inner tube with no apertures to take a representative sample of grains and oilseeds to resolve disputes in grading results.

This SAGL study was conducted for Agbiz Grain. For more information, send an email to Dr Hannalien Meyer at hannalien.meyer@sagl.co.za or Wessel Lemmer at wessel@agbizgrain.co.za.

# Split kernels in barley: The impact on profit margins

*By Heleen Viljoen, agricultural economist, and MJ Swart, regional manager of marketing and farmer development, Grain SA*

Barley is considered one of the most important winter grain crops and can be categorised into two types: malting barley and feed barley. Malting barley is primarily used as the main ingredient in one of South Africa's favourite beverages – beer.

Two things are needed for malting barley cultivation to be successful, namely favourable weather conditions and price opportunities. This past season, winter grain producers faced historically high rainfall during critical production periods, multiplying the risk of lower quality grain. Due to the stringent quality requirements for malting barley, its production and storage are not as straightforward as those of crops such as wheat and maize. Given the challenging season that we had, the question arises: What is the impact of lower quality on a producer's profit margin?

## Quality is key

Last year's barley production season was marked by above-average rainfall in both the Southern Cape and Swartland regions, which had an impact on quality. Average rainfall from January to December in the Southern Cape's Overberg region was approximately 775mm, compared to the long-term average of 480mm.

Annual rainfall in the Swartland region was 437mm, compared to the long-term average of 346mm. Consequently, the 2023 barley harvest contained a higher percentage of split kernels. Storage operators in the Overberg and Southern Cape provided the following feedback:

- **Overberg Agri:** The nitrogen and kernel plumpness of the barley they received were acceptable. However, the percentage of split kernels had a significant impact on the quality of malting barley. The risk associated with split kernels is that it can be downgraded to feed barley. Even barley that met the grade had split kernels.
- **SSK:** The excessive rain before and during harvest adversely affected malting barley quality, with a large portion of the harvest graded as feed barley due to split kernels. A total of 53% of the barley received by SSK in the Southern Cape was malting barley, 34% was feed grade, and 13% was split. The market agreed to accept part of the harvest on a concession for split barley, with strict conditions for it to be accepted as malting barley at a later stage. Nitrogen levels and kernel plumpness were significantly lower than the previous year.

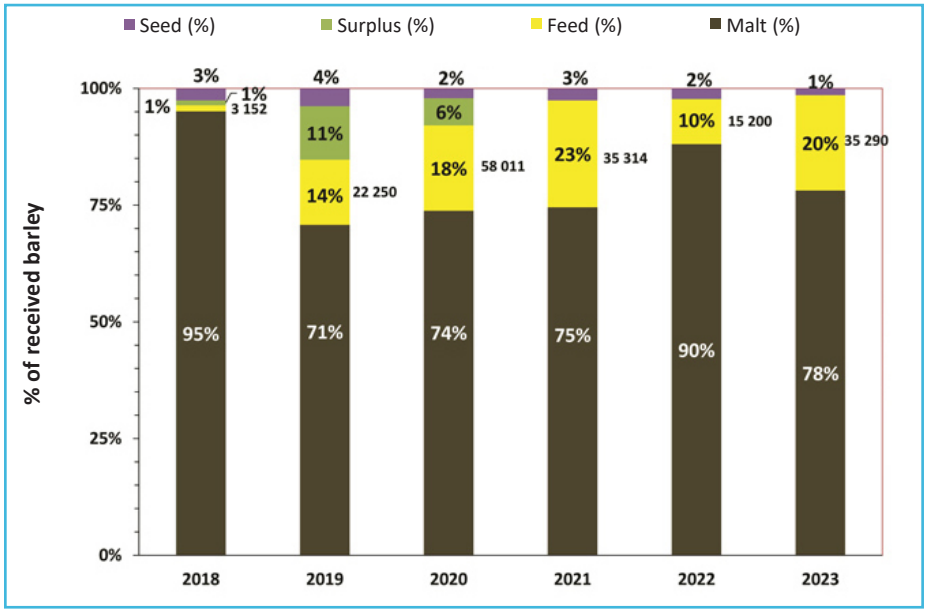
## Barley storage

The process of storing barley is more complex than, for example, wheat. Barley must be malted for beer production, which requires it to germinate sufficiently during the malting process. However, for this to happen the barley must remain 'alive' from the time it is harvested until it is malted, making its storage fundamentally different from that of other grains.

The two main crops cultivated by producers in the Swartland are wheat and canola, with barley being cultivated to a lesser extent. Last season, the Southern Cape had to create additional silo space in order to store split barley separately by cultivar. In addition, naturally dried barley had to be stored separately from artificially dried barley.

Some storage operators are concerned that the barley might be rejected if germination doesn't go as planned, posing a huge risk given the high

**Figure 1: Malting barley versus feed barley received by Overberg Agri since 2018. (Source: Overberg Agri)**



percentage of split kernels. Even malting barley that adhered to the specification (± 0,4%) contained split kernels. Storage is further complicated by the need to compartmentalise barley by grade (malting and split), cultivar, and nitrogen level according to the nitrogen band.

## Economic impact

The quality of the barley offloaded at storage complexes has a significant economic impact at ground level, as it determines the final price that producers receive. So, given the challenging season behind us, how did the lower quality affect producers' profit margins?

The Bureau for Food and Agricultural Policy (BFAP) investigated this issue. *Figure 2* illustrates the impact of poorer barley quality on a producer's profit margin compared to other winter grains. For example, if the quality of barley is downgraded by 20%, a 7% increase (an increase of 0,11t/ha, raising the current break-even from 1,54 to 1,65t/ha) is required to maintain profitability. Barley cannot compete with wheat or canola if the quality downgrade exceeds 20%.

Considering the risk associated with quality, prices are under pressure in order to ease the need for higher yields. Malting-grade barley prices are considered equivalent to B1-grade wheat prices.

*Figure 3* illustrates the price and product trends since the 2019/20 season, comparing the price of imported barley to local prices. In the 2020/21 and 2021/22 seasons, no barley was imported due to sufficient local production.

## Final thoughts

Weather conditions and price opportunities are crucial for successful barley production. These two factors are interdependent: if the yield is low, the price must compensate; and if prices fall, the yield has to make up for it.

In May, prospects for this year's barley production were positive, with sufficient moisture in the field and favourable weather conditions promising a good season. On the pricing side, wheat is trading sideways, showing no clear upward or downward trend. Lower wheat prices directly affect malting barley prices, increasing the pressure on yield to ensure profitably.

**Figure 2: Influence of barley quality on gross margins. (Source: BFAP)**

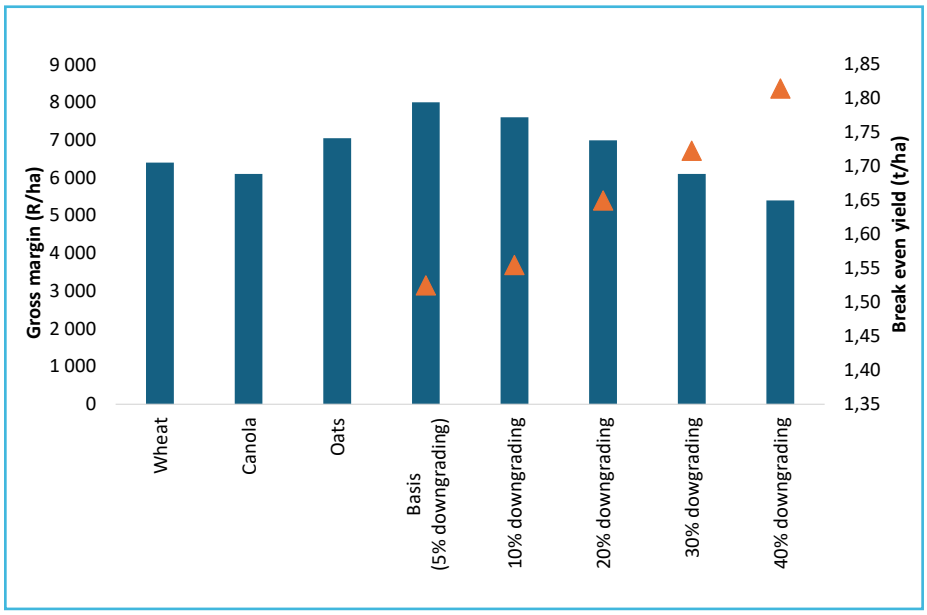
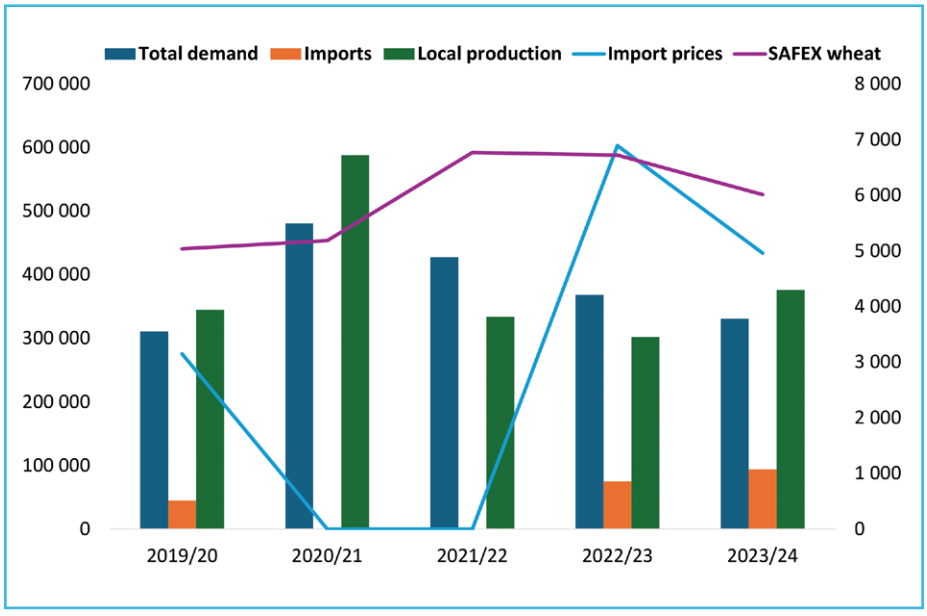



**Figure 3: Barley production and price trends since 2019/20. (Source: SAGIS, Grain SA)**




For more information relating to the grading of barley, scan the QR code.

This article was translated for *Agbiz Grain Quarterly* from an article published by *SA Grain* in (*www.sagrainmag.co.za*). For more information, send an email to Heleen Viljoen at heleen@grainsa.co.za or MJ Swart at mj@grainsa.co.za.

# Environmental law know-how for SHEQ practitioners

*By Christal-Lize Muller, Plaas Media*

Environmental law and management, although often overlooked, are becoming increasingly critical as environmental issues become more urgent. Lucinda van Rensburg, managing director of Implex, a company specialising in legal compliance in the safety, health and environmental fields, highlighted this during the eighth Agbiz and Agbiz Grain Safety, Health, Environment, and Quality (SHEQ) virtual workshop. She noted that environmental legal compliance is more complex than health and safety, given the depth of environmental legislation.


Photograph: www.freepik.com

When dealing with this field, putting your thinking cap on is essential. Existing environmental aspects need to be identified and their impact on the environment assessed. This assists in determining which legislation applies in which situation.

Van Rensburg outlined key laws and regulations that a SHEQ practitioner should consider in environmental management. Implementing an environmental system such as ISO 14001 involves compliance with various legal requirements. This process starts by identifying the applicable laws for a company or organisation and then measuring compliance.

A legal register is created to identify these laws, acting as a company-specific law book that lists relevant laws based on the company's impacts and aspects. Depending on the level of government – national, provincial, or local – a company might need to comply with at least 20 different pieces of legislation.

## Body of law

Environmental law is complex, requiring an understanding of the 'body of law' concept. This structure starts with a principal act, such as the *National Environmental Management Act, 1998 (Act 107 of 1998)* or *NEMA*. Unlike the *Occupational Health and Safety Act, 1993 (Act 85 of 1993)* or *OHS*, with its clear regulations and standards, environmental law involves multiple acts forming a broader 'family' of laws.

Subordinate legislation, such as regulations, derives authority from a principal act such as *NEMA*. Each act has its own set of regulations, which can be seen as the 'arms and legs' of environmental law. Beyond regulations, some specific permits and licences, such as waste management, air emissions, or water use licenses, with their own conditions, act as hands and feet.

Compliance involves adhering to acts, regulations, and any permit or authorisation conditions. The Department of Forestry, Fisheries and the Environment (DFFE) issues norms and standards under specific acts, outlining minimum compliance requirements. For example, the *National Environmental Management: Waste Act, 2008 (Act 59 of 2008)* has norms and standards for organic waste composting. Although a permit is not needed for composting, compliance with these norms and standards is mandatory.

Companies must navigate this multi-layered structure considering national, provincial, and local legislation, as well as internal procedures to ensure compliance. This hierarchy is essential for environmental compliance.

## Legislative hierarchy

Van Rensburg outlined three levels of environmental legislation in South Africa:

**The *Constitution*:** At the top of the environmental law family, referred to by Van Rensburg as the 'grandmother legislation', is the *Constitution of the Republic of South Africa, 1996*. Section 24 ensures the right to a sustainable and protected environment, mandating the DFFE to create laws in co-ordination with other departments to prevent pollution and degradation, promote conservation, and ensure sustainable development. This requires a balanced approach, considering environmental, economic, and social responsibilities.

***NEMA*:** This is the central piece of environmental legislation, or as Van Rensburg calls it, the 'mother legislation'. It serves as umbrella legislation, covering various environmental management aspects such as schedules, regulations, notices, permits, authorisations, and established norms and standards. Van Rensburg said this indicates that the broader scope of the body of law is not

limited to just the primary legislation but covers all aspects related to the environment.

Key provisions include incident management, the Section 28 duty of care, environmental impact assessments under Section 24, and penalties and offences in Section 34 specifying additional fines the state can impose for environmental infractions.

***SEMAs:*** Specific environmental management acts or SEMAs, derived from *NEMA*, are considered the 'children' of *NEMA*. Van Rensburg said the provisions in *NEMA* also apply to these SEMAs without needing repetition within each specific act. It covers specialised areas of environmental regulation. There are eight SEMAs including the *National Water Act, 1998 (Act 36 of 1998)*, the *NEM: Biodiversity Act, 2004 (Act 10 of 2004)*, and the *NEM: Waste Act, 2008 (Act 59 of 2008)*. Each SEMA has its own regulations and subordinate legislation, focussing on specific aspects of environmental law. *NEMA's* broader principles apply to these SEMAs, ensuring consistency across environmental legislation.

In addition to these national acts, Van Rensburg also emphasised the importance of provincial and local requirements, which she referred to as the 'cousins' and 'distant cousins' in the environmental law family. Compliance requires addressing all these layers.

## Fines and liability

Van Rensburg prefers the *National Environmental Compliance and Enforcement Report (NECER)* over Section 49 of *NEMA* to discuss offences and penalties. Section 49 outlines the penalties for environmental offences. For a first offence or less serious violations, the fine is up to R5 million, or five years of imprisonment, or both. For more serious offences or repeat offences, some SEMAs impose fines of up to R10 million, ten years of imprisonment, or both.

## Advantages of *NECER*

The DFFE has been releasing the NECER annually for the last 16 years. It details compliance and enforcement activities such as court cases, fines, and other penalties. She noted that while penalties can go up to R10 million, the actual fines are often lower.

Section 34 of *NEMA* introduces the 'polluter pays' principle, allowing courts to order violators to cover clean-up and rehabilitation costs in addition to fines. Fines can be suspended, with larger financial penalties linked to clean-up and rehabilitation costs. This can create substantial financial obligations for environmental restoration.

The report provides a comprehensive guide to administration, cross-references previous reports, and includes statistics on environmental enforcement activities. It details the number of inspectors from different departments who conducted site visits, the number of facilities inspected for proactive compliance, non-compliance issues detected, and changes to specific acts such as *NEMA* and SEMAs.

Click here to access the 2022/23 *NECER*.

Furthermore, *NECER* provides legal insights and key enforcement statistics, including admission-of-guilt fines, criminal dockets for non-compliance, arrests, and acquittals.

## Environmental risk assessment

To conduct effective environmental risk assessments (ERAs), Van Rensburg said it is essential to understand the sources of risk and to conduct self-assessments while adhering to relevant laws. She suggested using ISO 14001 as a framework for ERAs and to ensure compliance with environmental regulations. ISO 14001 is a well-known international standard for environmental management systems (EMS), providing guidelines for creating a compliant and effective ERA methodology.

**Step 1:** Understand the environment to be protected. According to Section 1 in *NEMA*, 'environment' refers to the surroundings in which humans exist, including land, water, atmosphere, micro-organisms, plants, and animals, along with their interactions. It also encompasses physical, chemical, aesthetic, and cultural conditions affecting human health and well-being.

**Step 2:** Recognise what constitutes pollution and why it must be prevented. Section 1 defines 'pollution' as any environmental change caused by substances, waves, noise, odours, dust, or heat resulting from any activity, including waste storage or treatment. This can harm human health, ecosystems, or useful material. It also considers future impacts. The focus is on identifying changes or adverse effects that negatively impact the environment, ensuring its protection for both current and future generations.

**Step 3:** *NEMA's* Section 23 emphasises the importance of incorporating environmental principles into decisions that could significantly affect the environment. Section 2 outlines guiding principles for incorporating environmental principles for this approach:

- Sustainable development (people, planet, profit).
- Best practicable environmental option.
- Precautionary principle (assume the worst-case scenario unless proven otherwise).
- Preventative principle (avoid, minimise, remedy).
- Cradle-to-grave (life cycle responsibility from beginning to end).
- Polluter pays (clean-up and remediation).
- Inclusive participation (indigenous knowledge and community involvement).

Van Rensburg added that these principles are foundational to integrated environmental management. When making decisions that affect the environment, you need to ensure these principles are woven into your procedures. Integration includes aspects such as energy, air, water, soil, plant, and animal management, and implementing risk assessments based on these elements.

To implement environmental management, follow these steps:

- Optimise energy use and explore alternative energy sources.
- Enhance air quality and reduce greenhouse gas emissions.
- Use water efficiently and avoid waste.
- Maintain soil fertility and use effective pest control methods.
- Promote biodiversity and sustainable plant use.
- Ensure animal welfare, protect wildlife, and support conservation.

These measures need to be applied along with the seven environmental management principles to ensure an integrated approach to compliance and sustainability.

**Step 4:** Duty of care towards the environment. Section 28 of *NEMA* specifies that anyone causing, has caused, or may cause significant pollution or degradation must take reasonable measures to prevent it from occurring, continuing, or recurring. If environmental harm is legally permitted or unavoidable, measures must be taken to minimise and rectify it.

Those responsible include:
- Owners of land or premises.
- Those in control of land or premises.
- People with the right to use land or premises where activities occur.

Recommended measures to meet this duty of care entail:
- Conduct ERAs to evaluate environmental impact.
- Educate employees regarding environmental risks and preventive measures.
- Modify or stop activities that cause pollution or degradation.
- Contain or prevent the spread of pollutants.
- Eliminate pollution sources.
- Remediate environmental damage.

Following these steps helps comply with *NEMA's* duty of care and protects the environment from harm.

**Step 5:** Considering relevant environmental aspects and impacts. To understand why an ERA is conducted:
- *Environmental impact assessment (EIA)*: When ERA is part of the EIA process, *NEMA* Section 24 requires specific guidelines, including hiring an environmental assessment practitioner to conduct the assessment.
- *Management system (e.g., ISO 14001)*: If ERA is part of an EMS such as ISO 14001, develop a methodology that aligns with the system's requirements.
- *Legal compliance*: If ERA is used to meet legal compliance, the methodology must be flexible and align with the duty of care in *NEMA* Section 28.

## Environmental aspects

Organisations following ISO 14001 must identify the environmental aspects of their activities, products, and services that they can control or influence, considering their life cycle and the associated environmental impacts. This involves evaluating changes such as planned or new developments, new or modified activities, products, services, abnormal conditions and unforeseeable emergencies such as fires or explosions.

Use established criteria and a consistent methodology to identify significant environmental impacts. Communication across various levels and functions within the organisation is key to ensuring everyone is aware of significant environmental aspects. Keep detailed documentation of these aspects and their impacts, often in an aspect and impact register, along with criteria used to identify such aspects.

Van Rensburg mentioned a typical example of environmental impacts in an agricultural business setting, such as silos, but noted that this list is not exhaustive:
- **Air:** Quality issues, gas or odorous substances from fermenting grains, fumigants used in pest control, fine grain dust, noise pollution, dust explosions, veld fires, and fire outbreaks.
- **Soil:** Pest and insect infestation and pest control.
- **Water:** Usage or demand, effluent generation, quality.
- **Waste:** Organic, general and hazardous waste.
- **Energy:** Power consumption.
- **Degradation:** Soil erosion and loss of biodiversity.

These significant environmental aspects can lead to risks with adverse impacts or opportunities for beneficial outcomes.

## Compiling an EMS

When discussing the elements of an environmental system, Van Rensburg noted that there is no specific procedure for managing a chain of responsibility. Establishing an effective EMS requires effort and dedication; it cannot simply be integrated into a health and safety system. She highlighted that ISO 14001 offers a broad framework that includes leadership and commitment. This includes developing an environmental policy and determining organisational roles, responsibilities, and authority.

Leadership involves designating specific roles to individuals, though environmental law does not mandate specific appointments such as health and safety representatives. However, certain authorisations, such as water usage, waste management, or air emissions licenses, may require a designated compliance contact.

She noted the importance of planning actions to address risks and opportunities, linking to risk assessments and EIAs, as well as setting environmental objectives and planning to achieve them.

Under support resources, it is critical to ensure competence, raise awareness, maintain communication, and manage documented information. Operational controls must be in place for emergency preparedness and response, as well as for monitoring, measurement, analysis, and evaluation. Internal audits and management reviews are also required. In addition, under improvement, nonconformity and corrective actions, as well as continual improvement should be established to address and prevent issues that could impact environmental compliance.

## Conducting an ELCA

Conducting environmental legal compliance audits (ELCA) involves two parts: an administrative audit and a physical inspection. The administrative audit focusses on reviewing documents, paperwork, and system-related issues, while the physical inspection involves a walk-through of the facility to visually assess compliance.

Key aspects of general environmental compliance include employee awareness of their right to a healthy environment and compliance with *NEMA* Section 28, which outlines the general duty of care. They also check for mechanisms that encourage protected disclosures (whistleblowing under Section 21), and compliance with integrated environmental management as mandated by Sections 23 and 2. They examine EIAs and how the organisation manages changes, new activities, and employees' rights to refuse environmentally hazardous work (*NEMA* Section 29). Another key aspect involves managing environmental incidents, as specified in *NEMA* Section 30, along with actions to remedy environmental damage.

In addition, the audits encompass a range of specific environmental compliance aspects, from administrative procedures to waste management and compliance with local bylaws. They investigate water management, air pollution control, control of dangerous substances, and public health

controls such as the registration of offensive trades. Other areas examined include compliance with local bylaws, management of fauna and flora, pest control, and ambient noise control, all of which contribute to environmental exposure risk assessments.

## Incident management

Van Rensburg explained that Section 30(1)(a) defines an environmental incident as an unexpected, sudden, and uncontrolled release of a hazardous substance, such as a major emission, fire, or explosion, which causes, has caused, or may cause significant harm to the environment, human life, or property.

The term 'uncontrolled' is critical because, while a diesel spill in an abandoned area requires clean-up, it might not be classified as an environmental incident if it is contained. However, if it is an environmental incident but not reportable, you still need to clean it up under Section 28's duty of care. Section 30 focusses on environmental incidents that must be reported.

## A useful report

She referred to the DFFE document, *Guidelines on the Administration of Incidents in Terms of Section 30*. Although not a regulation or tied to a specific act, this guideline is a helpful resource for drafting incident management procedures. It contains Section 30 of *NEMA* (Annexure 1), templates for incident reporting (Annexure 2), and an alphabetical list of hazardous substances with their chemical abstracts service codes and minimum quantities (Annexure 3). For example, diesel has a minimum quantity of 100 litres that triggers reporting.

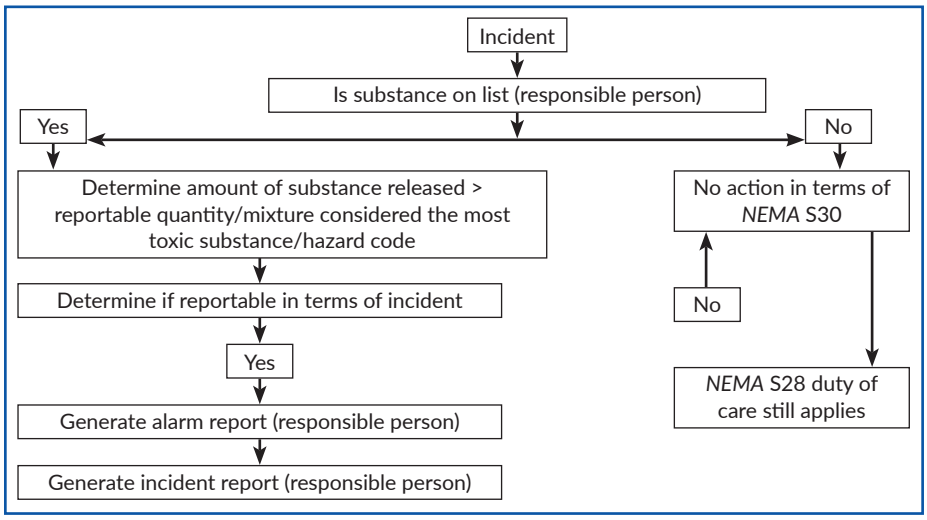
Van Rensburg recommended that organisations refer to these guidelines to ensure proper incident management. This involves reviewing safety data sheets (*SANS 1023*) to classify chemical substances in the workplace and using the template to report incidents as required.

Click here to see the DFFE guideline document.

## Reporting of environmental incidents

She explained that according to Section 30 (1)(b), any person responsible for an incident, who owns or controls any hazardous substance, needs to report it.

**Figure 1: The incident reporting process.**




An incident procedure cannot simply be added to the *OHS Act* procedure because reporting is required to multiple entities. Section 30 (1)(c) states the incident must be reported to the municipality with jurisdiction over the area where the incident occurred, the provincial head of department or any other provincial official designated by the member of the executive committee, the director-general of the DFFE, or any other director-general of a national department.

Van Rensburg referred to the guideline document on how to report an incident. The process to follow is explained in *Figure 1*.

If an incident occurs, an alarm report (immediate report) must be submitted to inform the relevant department. Following this, a detailed incident report must be submitted within 14 days. She referenced the guideline document, which outlines the required actions.

The guidelines include specific sections from *NEMA* that provide the legal basis for each action:

- Initial reporting of the incident to the authorities by the responsible person, Section 30(3).
- Containing and minimising the effects of the incident on the environment, health, safety, and property of persons by the responsible person, Section 30(4a).
- Undertaking clean-up procedures by the responsible person, Section 30(4b).
- Remedying the effects of the incident by the responsible person, Section 30(4c).
- Assessing the immediate and long-term effects of the incident on the environment and public health by the responsible person, Section 30(4d).
- Initial evaluation reporting within 14 days of the incident by the responsible person, Section 30(5).

The first step after an incident is to start with clean-up procedures and remedy the effects. You must inform the department of the incident, and they may give you additional instructions, which you must follow promptly to avoid committing an offence. During the clean-up, you must assess the immediate and long-term effects on the environment and public health. Depending on these outcomes, corrective actions should be implemented. Finally, submit the environmental report within 14 days to comply with *NEMA* requirements.

## How to report an incident?

The department's guideline document includes a format for reporting incidents. This format can be found in Annexure 2 (pages 21 to 31), which contains a template for creating an incident report.

Click here to see the reporting guideline document.

For more information, contact Lucinda van Rensburg at lucinda@implex.co.za or 082 890 7695.

# SHEQ compliance audit: Purposed to create excellence

*By Izak Hofmeyr, Plaas Media*

Photograph: www.freepik.com

Complying with all the safety, health, environment, and quality (SHEQ) standards in any operation is not only a legal imperative – it ought to be a moral obligation. Ethics is a major driving force in consumer choice worldwide, which presents a third reason why compliance should become part of the DNA of any company.

It is for this reason that the quarterly SHEQ workshops were initiated by Agbiz Grain. The workshops are aimed at creating a central point within the Agbiz Grain community where ideas and concepts can be exchanged regarding industry-specific, SHEQ-related challenges and needs.

SHEQ parameters have been well established in both the manufacturing and mining industries in terms of compliance, according to Gerard Ramage, SHEQ manager at VKB and member of the Agbiz Grain SHEQ committee. However, the agricultural industry lagged somewhat in this regard, and for the past ten or so years, as agricultural companies started to play a much bigger role industrial-wise, the need for fully complying with health and safety legislation has escalated.

## Criteria for compliance

Subject matter experts present quarterly workshops during which aspects such as electrical compliance, fire precautions, and medical surveillance are discussed. This led to the realisation that compliance with all these criteria needs to be measured objectively. Because the agricultural storage sector is unique, it would be very difficult, not to say misleading, to use manufacturing or mining standards for measuring compliance. For example, how do you compare a silo, with maybe 12 employees, to a factory running three shifts a day with hundreds of employees?

Initially, Agbiz Grain's approach was to create a criterion based on the number of injuries on duty per 200 000 working hours. This, however, never gained traction. Meanwhile, rising insurance premiums and insurability became a significant issue. This led to renewed efforts to find some way of presenting the insurance industry with objective evidence that the storage sector is actively managing relevant risks, which should influence sustainable insurability.

Such a criterion has to be based on industry-specific guidelines. On the one hand, it must provide objective guidelines to individual companies regarding their compliance with legal requirements. Furthermore, the criterion must provide insurers with an objective overview of the industry's situation, including that of individual companies within it.

## The ASPASA example

There are two ways to go about formulating such a criterion, says Ramage. You can either study similar criteria formulated by other industries or follow a do-it-yourself approach. "Take the Aggregate and Sand Producers Association of Southern Africa (ASPASA) for example. They have been applying this process for years. Members of ASPASA are audited annually by an independent auditor, based on an industry-specific audit document written in compliance with mining legislation.

"The advantages of following a similar approach became clear, and with it formulating an industry-specific audit document for our industry that complies with legislation and can be used by independent auditors. This would provide a tangible compliance document – this route is not only cheaper than going through the International Organization for Standardization (ISO) auditing process but is also industry specific, which the ISO audit is not."

"It would enable SHEQ practitioners to identify possible shortcomings or weaknesses in the grain storage companies they work for regarding compliance, which would provide clear guidelines as to how and what to improve. It would also provide stark indicators to those in the company carrying legal liability as to the risks in the company and how to mitigate those risks, and how well those risks are being managed."

With the advantages of an independent auditing approach established, the next question is how such a document would be formulated?

The document should provide an overall score for the audit and break the scores down into categories. At the end of the audit, the document should provide an action list of aspects that need attention.

## Advantages of audits

The advantages of having an annual independent and objective audit for each grain storage facility, explains Ramage, is significant, both for individual companies and for Agbiz Grain as an industry representative. For individual companies, the audit findings should provide an action list they can utilise to continually improve. Even if a company scores well above the industry standard, it will still receive an action list according to which it can adjust its standards upwards.

"High-risk components of the audit should carry a lot of weight, because if those aspects are neglected for whatever reason, it will have a significant bearing on the overall score. The audit should therefore force participants to prioritise aspects that carry the most weight. This means that the most serious aspects, with the gravest legal implications, are addressed first.

"Seeing that independent auditors conduct the audits, it might also provide tangible evidence of compliance to insurers, who then would be able to take this to their reinsurers. This might have a positive effect on premiums and insurability."

The audit results can be reported to board members and executive committees, for whom legal liability is a serious concern.

The industry could determine its own level of compliance and, if the level of compliance is high, reassure the inspectorates in the relevant state departments by demonstrating that the process being followed to adhere to compliance is sound.

Secondly, to distinguish between levels of compliance at specific storage facilities, a star system would work best. Should inspectors arrive at a facility and note a five-star auditing indicator, they can rest assured that this facility is audited annually and is performing well above industry standards.

Another advantage would be pinpointing specific challenges and difficulties. Based on feedback from all the audits every year, common challenges in the industry can be identified and solutions collectively developed to the benefit of all individual role-players.

## Commitment is required

"There are costs involved in creating such an auditing system, including a report document," says Ramage. "There is no getting away from it. Every member company would have to supply inputs and commit to subject all their storage facilities to annual audits. The success of the project hinges on this commitment.

"The audit document should be populated by the industry, for the industry. We should decide which criteria should carry the most weight and adapt it regularly according to changing legislation. In this way, we ensure the sustainability of our industry through SHEQ compliance."

For any contribution to this developing matter, submit commentary and suggestions to Annelien Collins at annelien@agbizgrain.co.za.

# Advocacy, activism and policy formulation

*By Annelize Crosby, head of legal intelligence, Agbiz*

Policy and legislation often come about or are changed because of external pressure applied to the policymakers in the form of advocacy and activism. The implementation of law and policy can also be the object of campaigns to stop, change or strengthen implementation. Government does not function in a vacuum; it is very much part and parcel of the society that it exists in.

There are various interest groups within any society, often with conflicting interests that they may be trying to advocate for. There are also different ways in which these interests can be campaigned for. Community activism tackles many issues, including social, climate, political and human rights issues. Forms of activism include, among others, writing letters to political leaders, organising sit-ins, and boycotting certain products and businesses.

## Advocacy and activism

Advocacy can be described as the act of persuading or arguing in support of a specific cause, policy, idea or set of values. The *Cambridge Dictionary* defines activism as the use of direct and noticeable action to achieve a result, usually a political or social one.

Agbiz, Agbiz Grain and many other industry associations are deeply involved in advocacy. These organisations lobby policymakers to ensure a business-friendly environment. In the agricultural sector, policy certainty is required for a thriving sector. These policies ensure things such as tenure security, competitiveness, investor confidence, enabling infrastructure, market access, and entrepreneurial opportunities.

Advocacy entails building networks, studying draft policies and laws, engaging with government and other stakeholders, putting the sector's views across, making submissions that are based on research and facts, and communicating these viewpoints to the public at large.

Activism on the other hand often focusses on specific social issues, individual stories, emotions and extreme solutions. There is a vast array of activist organisations out there including small, large, local, international, professional, and more unsophisticated organisations.

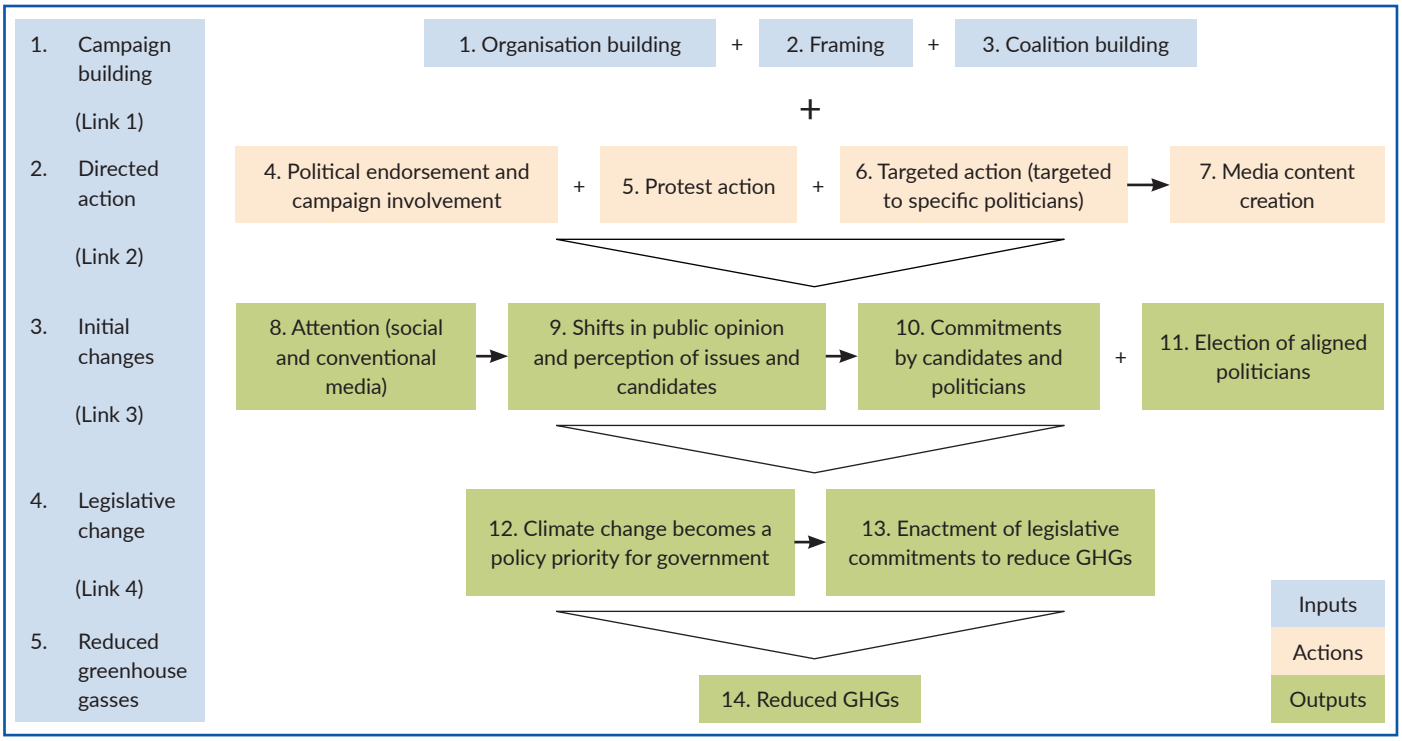
Activists are issue-driven, and some of the issues in the agricultural space that they tend to focus on include pesticides, genetically modified organisms, workers' rights, tobacco use, and access to land. Activists can bring about positive change and highlight important societal issues. They can, however, also play quite a negative role in certain cases, disrupting sectors and positive developments.

## What approach do activists take?

Activists use many different approaches to get their message across, including marches, sit-ins, demonstrations, petitions, submissions, rallies, speeches, boycotts, and using both social media and mainstream media.

Activists usually have a campaign strategy, with specific goals, tactics, messages, allies,

**Figure 1: Steps followed by social movements to bring about legislative change: An example of climate activism. (*Source: www.givinggreen.earth*)**



and risks set out in such strategy. Goals can be local, national or global. Activism often seeks to generate a feedback loop where initial actions and attention draw greater participation, which then leads to further activity and attention. If public opinion can be influenced in a particular way, this may lead to policy and legislative changes. *Figure 1* illustrates the steps many social movements follow to bring about legislative change.

Activist social movements sometimes also try to de-legitimise their opponents and others who hold contrary views to exclude their views from a policy process.

## Engaging with activists

While every situation will differ and it is ultimately up to each business to decide whether, with whom, and how they engage on any issue or in any policy process, it may be appropriate to be willing to at least listen to what activists have to say and try to understand what the real issues are that they are trying to address. In certain cases, it may be possible to enter into a dialogue and perhaps even find common ground with such groupings, although industry stakeholders need to understand that activists' point of departure, motivation, and *modus operandi* may be very different from their own.

Industry leaders must, however, not allow themselves to be marginalised in important policy conversations and must continue to put their views across to the policymakers and public at large, even if there are attempts to paint them in a very negative way. All stakeholders have a right to be heard.

## Ongoing communication

The agricultural sector is one of the most important sectors in our economy. According to the economic review of South African agriculture from 2022 to 2023, the nominal growth in primary agriculture increased by 8,9% per annum since 2010, while South Africa's entire economy increased by 6,3% over the same period, resulting in an increase in agriculture's share of the gross domestic product (GDP) from 2% in 2010 to 2,7% in 2022. The sector is also a significant provider of employment.

It has kept South Africa's food secure for decades, through droughts, floods, climate change and Covid-19. It is a vibrant and robust sector with many good stories to tell – stories of transformation, regeneration, and support to communities in need.

Unfortunately, this sector often gets targeted in all sorts of campaigns portraying it in a negative light. While real problems should never be ignored, the industry as a whole needs to keep on spreading positive stories and promoting the sector at every opportunity. This includes facts about the relevance of the sector, the importance of national food security, the regulatory regime that ensures healthy, quality produce, the role that it plays in rural development and regeneration, and national stability.

The problems that the sector faces should be continuously communicated in a fashion that ordinary South Africans can engage and identify with. At the same time, the industry needs to acknowledge and tackle the real issues the industry faces.

For more information, send an email to Annelize Crosby at annelize@agbiz.co.za.

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## Points to ponder

*By Jannie de Villiers*

# Sharpening your cutting edge

The term 'cutting edge' is commonly used in business. It applies, for instance, when we upgrade technology at a silo complex or computer systems or even our phones. Cutting edge can also apply when hiring a highly skilled person to assist with your business strategy and implementing your business plan.

In this editorial, however, I want to focus on your own cutting edge. By the third quarter of a year people's 'edges' are often blunt. We tire of running at full capacity without a break. Our 'innovation curves' might flatten and impatience is the order of the day. 'Edge', in this sense, represents how sharp and sensitive you are in identifying the dots and connecting them to become more efficient and prosperous. A sharp edge will enable you to focus on what truly matters in your life without getting easily distracted.

### How do you lose your edge?

A pocketknife does not become blunt merely by being in your pocket. It is when you use it, and use it frequently, that it becomes blunt. Much like a pocketknife, the same happens to us. We don't lose our edge during times of inactivity, but rather during times of usefulness and busyness. Usually, it is the very thing that we love doing that causes us to lose our edge.

Long hours of leading or managing people might dull your judgment. Prolonged high-pressure situations without breaks may take a toll on your wellbeing. If communicating with your spouse revolves solely around organisational matters and the co-ordination of diaries, your marriage may be in trouble.

### Recognising the problem

In some instances, you can sense that your business is losing momentum or becoming less productive. At other times you realise that the morale and speed of your team are quite different to what it was at the beginning of the year. You might even detect a change in your relationship with your loved ones or team – things might be going pear-shaped, or your profits or targets start falling short, almost always with negative consequences. Close friends or mentors might ask you directly about the sharpness of your edge.

> "A sharp edge will enable you to focus on what truly matters in your life without getting easily distracted."

Remember the story from 2 Kings 6: A prophet lost his axe-head (his edge) in the water while cutting trees. He could have easily, like many of us, continued to hit the tree with the axe handle, sending bark flying, pretending that nothing was wrong, but he did not. He cried out for help and the axe was restored. Similarly, in business, hitting trees with an axe handle without yielding results might indicate a loss of edge. If your relationship resembles flying bark, it might indicate that you are the problem. Seek help.

### How to get your edge back

When you feel your edge going blunt, consider these suggestions to sharpen it:

- Take a break: Visit places that refresh you. Some people need to spend time in nature, go sailing, do quiet reading, rest or sleep with no phone and no people, or go for a walk on the beach.
- Read: Read the Bible and good books on the subject to slow you down and guide you in meditating about life.
- Mentors: Listen to those who have experienced losing their edge and successfully regained it. Their insights can be invaluable.
- Devote more time to prayer.
- Really listen to music, not just in the background.
- As Psalm 50:15 says: "Call on me in the day of trouble; I will deliver you, and you will honour me." Cry out to God.

The Bible is full of examples of great individuals who lost their edge but were restored by God. Think of Elijah, David, and Peter. Some were restored by resting, others through repentance, and others by going back to the place where they lost their edge and facing the brutal facts after being recommissioned. Remember, we can sow, fertilise and water, but it is God who brings growth. Trust Him to restore your edge if it has become blunt.

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