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Grain storers:
A critical link in the grain value chain

By Johan Lusse, general manager grain and grain services, Overberg Agri

Commercial silo owners offer grain producers, traders, buyers and processors, who store their grain at silo complexes, a range of benefits including assuming the risk for the product and guaranteeing that its quality and quantity will remain within set parameters. Secure and safe storage also entails complying with food safety and health requirements (food business operator and PPECB certified) and maintaining quality through regular inspections and preventive measures.

Furthermore, commercial grain storers offer services that add value to grain products such as grading at intake and outloading, drying of wet grain, cleaning of grain to within specifications, and weighing of grain.

Different storage options

Grain storage, from intake to unloading at the processor, must meet minimum market requirements. Different grain products have different product-specific storage requirements. Among the most critical factors are the grains' moisture content and temperature at intake and during storage.

The requirements for products bound for further processing are also market driven, and this mainly determines how different grain products must be stored.

The Western and Southern Cape, which are winter rainfall regions, are known for the cultivation of small grains such as wheat, barley, oats, canola, sorghum and lupines. The grading requirements for most of these crops are contained in the *Agricultural Products Standards Act, 1990 (Act 119 of 1990)*.

In the case of wheat and oats, there are 16 grading specifications that have to be met, while canola must meet 13 grading specifications. In the case of malting barley there is a total of 33 the product must meet to qualify as malting grade. The handling and storage of certain grain types, with specific reference to malting barley and canola, are much more extensive than others.

Storing barley

When it comes to storing barley, there are a few challenges the grain storage sector must navigate. Malting barley cultivars must be stored separately and according to nitrogen range (high to low). Artificially dried malting barley and normal, field-dried malting barley cannot be stored together.

The biggest challenge when storing malting barley is the preservation of germination energy (97%) and germination capacity (98%). These two factors are critical in the malting process (the malt is used for brewing beer). This means that malting barley, upon delivery to processors, must have a germination capacity of 98%.

Seed viability normally decreases over time and even faster under sub-optimal storage conditions (too hot and too high moisture). To ensure that the malting barley germinates, it must be stored in well-ventilated structures that are temperature monitored throughout. This requires additional capital investment as well as greater management efforts and other inputs.

Other inputs pertain to the cleaning of barley in a bid to meet stricter grading requirements, as well as taking samples to test for germination before the malting barley is ordered. In this case, the barley must be transferred from one bin to another, and a sample taken from every 40 tons, which is examined by the processor before the barley is accepted and ordered. If germination does not meet the minimum requirement of 98%, the barley is rejected and sold as feed barley at the prevailing price.

Feed barley usually trades at a discount of between 15 and 20%, compared to the price of malting barley. The grain storer bears this risk. The storer receives a normal risk premium on delivered malting barley as compensation, to allow for potential rejections. However, this risk premium is often not enough to compensate for losses. An additional risk premium is therefore recovered from producers, if necessary, for potential losses above that which is covered by the normal risk premium.

Johan Lusse.

Storing canola

Canola seed is high in oil and newly harvested canola may contain seed with different moisture contents and temperatures, foreign material with a higher moisture content than canola, green seeds and field-derived mould. Foreign material should ideally be removed before canola is stored to make sure there is no high-moisture material with the canola in the silo.

Stored canola must be carefully monitored, especially during the first six weeks after intake when seed respiration can still be high. Temperature and moisture increases create the ideal environment for mould growth that, together with respiration, can produce more heat and moisture that may have a significant adverse impact on the quality of stored canola. To manage these risks and promote the safe storage of the product, aeration and temperature monitoring are critical.

For more information, contact Johan Lusse on 083 310 2362 or johanl@overbergagri.co.za.

AGBIZ GRAIN GAZETTE

Opportunity: Service provider required

Agbiz Grain requires the services of an entity that will be able to provide the following outputs on a contractual basis.

1. Establish a forum where training providers, facilitators and assessors can review the learning material and share best practices to improve programme delivery.
2. Provide support to SDPs with accreditation, learner registration, MoUs with workplaces and the use of learning materials.
3. Identify and assist with accreditation of assessment centres where EISA can be administered.
4. Registration of learners for EISA.
   a. Liaise with AgriSETA to set EISA dates that will be published on the AgriSETA and Agbiz Grain websites.
   b. Set closing dates for registration of learners for the EISA (at least three months before the EISA). No late submission will be allowed.
   c. Special needs learners must be identified when they are registered for the EISA to make sure that allowances can be made for them when they come to the AC.
   d. Learner EISA registrations submitted to AgriSETA and QCTO for admission to EISA.
5. Prepare assessment centres for EISA:
   a. Arrange a suitable venue for the agreed dates and times.
   b. Liaise with AgriSETA to obtain the EISA.
   c. Arrange for invigilators, assessors and moderators to administer the assessment process.
   d. Submit learner results to AgriSETA within 15 days.

The following criteria will be helpful in the application for this role:

- Experience in the SETA and QCTO environment.
- Knowledge of QCTO policies and regulations.
- Knowledge of the grain handling environment.
- Knowledge and experience in facilitation and assessment.
- Strong planning and organising skills.
- Effective communication skills.
- Attention to detail and prioritising skills.

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Please send your CV/proposal to annelien@agbizgrain.co.za before 31 May 2023.

How to become a skills development provider

The Quality Council for Trades and Occupations (QCTO) is responsible for quality assuring all occupational qualifications registered on the Occupational Qualifications Sub-Framework (OQSF). This guide is designed to help you on your journey to becoming a skills development provider (SDP) who can successfully run quality occupational learning programmes.

All information contained in this guide is based on the QCTO policies that can be accessed at *www.qcto.org.za* under the 'Resources' tab. It is recommended that you find the latest versions of the policies on the website and keep them nearby as a reference.

View the complete document here: *https://www.qcto.org.za/assets/qcto_the-road-to-success.pdf*

Soya bean crop quality report

The final commercial crop figure of the 2021/22 season, as overseen by the National Crop Estimates Liaison Committee (CELC), is 2 230 000 tons. This unprecedented record crop represents an almost 18% increase year-on-year. The major soya bean producing provinces, namely the Free State and Mpumalanga, contributed 73% of the total crop.

This is the eleventh annual soya bean crop quality survey performed by The Southern African Grain Laboratory (SAGL) NPC.

A total of 81% (121) of the 150 samples analysed for the purpose of this survey were graded as Grade SB1, while 29 (19%) of the samples were downgraded to COSB (class other soya beans). During the previous two seasons, 20% (2020/21) and 27% (2019/20) of the samples were downgraded to COSB. The percentage samples containing sclerotia from the fungus *Sclerotinia sclerotiorum* was equal to that of the previous season, namely 43%.

View the full report here: *https://sagl.co.za/wp-content/uploads/Soya-Crop-Quality-Report-2021-2022-website.pdf*

SHEQ Forum workshops in 2023

The Agbiz SHEQ (safety, health, environmental and quality) Forum was established in 2022 by Agbiz Grain in a bid to keep Agbiz members up to date with various trends, legislation and good practices through quarterly workshops.

The theme of the first workshop was "Fire risk and the prevention of fire in the workplace" and was presented by Liebrecht Swanepoel and Ben Badenhorst. The *Compensation for Occupational Injuries and Diseases Act, 1993 (Act 130 of 1993)* will be addressed in the second quarter and the workshop will unpack practical aspects of injury on duty and occupational diseases. This workshop will lay the foundation for the third- and fourth-quarter workshops.

The third-quarter workshop will address 'medical surveillance and occupational health' whereas 'occupational hygiene surveying' will be the theme in the last quarter. The latter will be presented by a qualified expert in occupational hygiene. Both medical surveillance and occupational hygiene surveying play a critical role in managing occupational injuries and diseases. *– Gerard Ramage, SHEQ manager, VKB Group*

Grain inspection implementation plan

Industry associations and stakeholders in the grain and oilseed value chain prepared a statement of principles for grain inspections in 2022. The *Statement of Principles* was provided to the Department of Agriculture, Land Reform and Rural Development (DALRRD) in June 2022. This statement is non-binding and does not supplant or replace the administrative process for the determination of Leaf's methodology and fees.

On 6 December 2022, the DALLRRD informed stakeholders in the grain industry that Leaf Services appointed the University of Pretoria's STATOMET division to establish a statistical basis for inspection frequency. The outcome of the study will form the basis for determining the proposed methodology and inspection fees. Leaf Services intended to commence with the inspection of grain and grain products during August 2023.

By April 2023, Leaf Services informed the DALRRD and the industry that the study was more complex than anticipated. Leaf Services now have a sense of changes required to the methodology and are updating the financial model accordingly. The changes to the financial model are significant. Leaf Services met with the DALRRD to discuss the STATOMET report.

Preliminary indications are that the Leaf Services will focus on the improvement of industry compliance. Furthermore, it is determined that cost optimisation is possible and fair. According to Mauritz de Kock of Leaf Services, this will make current self-regulation visible as low-risk role-players will receive minimum inspections and higher risk score role-players will be frequently inspected. The proposed methodology will allow higher-risk role-players to move to low risk as compliance improves. *– Agbiz Grain*

Researching suitable sampling apparatus

The Agbiz Grain technical committee on sampling met in April, during which they discussed the selection approval and certification of sampling apparatus suitable for use during disputes.

Certification of sampling apparatus requires stating manufacturing specifications. Sampling devices are being independently evaluated by the SAGL to select the appropriate apparatus from a performance and engineering point of view. Specifications must be confirmed by an engineering specialist to ensure fail-proof long-term efficiency.

Manufacturing requirements include width and length of apertures, the intermediate width between apertures, the type and thickness of the steel used in the twin bore samplers, and the strength of the sampler. The scientifically selected apparatus will be included as the prescribed, certified instrument specified in sampling and dispute protocol. To evaluate the different samplers, a handling procedure must be finalised by grading specialists.

It is foreseen that the research may lead to the recommendation of a unique sampler for use in South Africa. The International Association for Cereal Science and Technology standard prescribes that the fundamental sample tool aperture size be a minimum of three times the size of the largest sampled particle.

Our maize kernel size tends to be bigger than kernels in the northern hemisphere. The sampler should be available in varying lengths but must have sufficient length to reach the bottom of the sampled conveyance. Open-throat sampling probes tend to draw more of the sample from the top portion of the grain in the lot compared to the compartmented probe. There are open-throat probes that when inserted into the cereal grain and opened, the apertures open in sequence, starting at the bottom, taking representative samples in compliance with global standards.

In the end, the ideal sampler needs to be practical. It must draw a representative sample and manufacturing components must be affordable and available. *– Agbiz Grain*

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Bühler reports good performance

According to latest *Bühler Annual Report*, 2022 was a good year with progress in many areas. Good performance was achieved against the backdrop of a tense economic environment resulting from the Covid-19 pandemic and amplified by wars, especially the one in Ukraine.

At the group level, order intake rose 8,7% and amounted to CHF 3,3 billion and the order book was very high at CHF 2,1 billion. Turnover increased by 10,3% to CHF 3 billion. EBIT improved by 36% to CHF 199 million, reflecting an EBIT margin of 6,7% (prior year: 5,4%). Net profit strongly improved by 35,7% to CHF 154 million (prior year: CHF 113 million). The growth in volume came mainly from the advanced materials business, where order intake soared by 40,6% to CHF 871 million, nearly doubling its volume of the last two years.

The *Bühler Annual Report* can be accessed at the following link: *https://www.buhlergroup.com/content/buhlergroup/global/annual_report1/annual_report_2022/economy/group-report.html*

BFAP launches malting barley study

The South African Winter Grain Industry Trust (SAWCIT) has commissioned BFAP to conduct an independent in-depth analysis on the local barley value chain. The study's aim is to assess and quantify risks associated with production, storage, handling, transport and processing of malting barley.

It aims to work with all industry players to identify practical, implementational mitigation measures that will ensure long-term sustainability and commercial viability. The research requires industry buy-in to a collaborative approach of data sharing while maintaining data confidentiality and sensitivity.

BFAP will engage with stakeholders to access and analyse available data across each node of the value chain. The goal will be to determine the common traits, trends and practices that independently or collectively influence quality and increase the risk of barley not meeting malting grade requirements.

The results will help establish why barley is being downgraded to feed grade with the associated reduction in price. The data driven insights of the key factors resulting in barley being downgraded will be instrumental in developing mitigation strategies and best practices across the industry. – *BFAP*

Storage requirements of malting barley

The malting barley storage sector is concerned about increased risks associated with storage. Anecdotal evidence suggests that malters' and breweries' storage requirements for storing malting barley grain are changing over time.

Consumer standards for beer in South Africa may be different from other global consumers. This may require malting barley grain at a quality level that demands a higher degree of specifications for handling and storage. "Handling and storage conditions (drying, aeration, temperature control and pest-free practices) are the number one evidence that malt barley and seed (other crops) will survive over time," said Rens van der Watt of the South African Barley Breeding Institute (SABBI).

Stakeholders in the beer value chain continuously search for solutions to optimise returns and lower costs. However, little is known about the performance of malting barley grain in storage in South Africa. There is a void in research that addresses the changing storage requirements of malting barley grain and the impact this may have on the value chain.

Agbiz Grain therefore focusses on promoting research and creating awareness to fill this research void among storage operators, stakeholders involved in the value chain and researchers. They will support the public and private funding for results-driven research. Agbiz Grain facilitated an inclusive industry-wide meeting on 17 April to prioritise important research needs. – *Agbiz Grain*

EU rejects Ukraine grain bans

The European Commission has rejected bans introduced by Poland and Hungary on Ukrainian grain imports. The countries said the measures were necessary to protect their farming sectors from cheap imports. The ban applies to grains, dairy products, sugar, fruit, vegetables and meat and will be enforced until the end of June.

While the Commission said that unilateral moves will not be tolerated, it has not yet specified what measures it would take against Poland and Hungary.

Most Ukrainian grain is exported via the Black Sea, but Russia's invasion last year disrupted export routes. As a result, large quantities of grain ended up in central Europe. A deal with Russia, brokered by the United Nations (UN) and Turkey, allows Ukraine to continue exporting by sea, but Ukraine accuses Russia of slowing the process down with over-zealous inspections.

Poland called for talks with Ukraine to ensure exports pass through Poland and do not end up on the local market. Ukraine says the move contradicts bilateral trade agreements. – *BBC*

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Photograph courtesy of AFGRI.

Compliance with JSE CDM rules and load shedding: A tough nut for commercial storage operators to crack

By Susan Marais, Plaas Media

The Johannesburg Stock Exchange or JSE-registered commercial storage operators in South Africa adhere to the JSE's Commodity Derivative Market's (JSE CDM) rules in respect of stock received via futures contracts. Stumbling blocks beyond the control of commercial storage operators, such as load shedding, could however impede commercial storage operator's ability to comply with these rules. Given the current situation of increased load shedding and its ripple effect, this is becoming a thorny issue indeed.

During Agbiz Grain's annual symposium which will be held from 4 to 7 September this year, this is one of the issues that will be extensively debated by role-players in the grain storage and handling value chain. To set the table for those discussions, *Agbiz Grain Quarterly* asked some role-players for their comments on the issue.

Do note that the editorial committee of *Agbiz Grain Quarterly* does not necessarily support the views and statements made in this article. We believe that any such statements must be supported by qualified evidence, which an article of this limited extent does not make provision for. We hope to thoroughly debate these issues during the symposium. Also refer to the next article for Agbiz Grain's position in this regard.

Background

Agbiz Grain members have 333 silos, of which a total of 299 are registered JSE sites and of these, 37 sites can outload their full storage in 30 days or less. There are 216 silos that can do this in 120 days or less, and one silo that will take 364 days to outload (source: JSE).

Silos were designed to store stock over a period of 12 months. The timeous requesting of outloading slots and well-maintained and operational outloading equipment depends on good management by the owner of the grain and the storage operator, respectively. This ensures sufficient access to stock. This begs the question: Is it fair to expect a single silo to outload its full capacity in 30 days?

The JSE facilitates around 20 to 25% of physical delivery of the total grain production in the country. In Agbiz Grain's view, this is more than sufficient to ensure price convergence for futures contracts. The JSE contract specifications apply only to transactions undertaken through the JSE. Any other transactions undertaken in the spot market are not bound by these specifications.

Access to 25% of outloading slots at storage operators applies only to JSE deliveries and is specifically there to assist buyers taking delivery through the JSE. This ability to secure outloading slots in the next month is supported by Agbiz Grain members.

Grain storage in South Africa

Storage costs represent a substantial source of income for commercial storage operators. Grain trading is a US$120 billion (R2,211 trillion) global industry which is all about the movement of the commodity – a process of which containment and storage are but one step.

"Grain is more valuable outside a silo than inside it, which is why it is referred to as buying grain ex-silo," says Johann Theron, a portfolio manager at PolarStar Management, a local and international agricultural commodities fund manager.

Hence, commercial storage operators with JSE-registered silos must be quick on the draw when it comes to unloading and outloading grain at silos.

Effective market functioning

"For the free market to function effectively, a buyer must receive stock when he or she presents valid documentation of ownership (such as a JSE silo certificate)," explains Theron. This includes honouring the rules of a commercial storage operator regarding loading and booking systems.

Dr André van der Vyver, executive director of the South African Cereals and Oilseeds Trade Association, SACOTA, says timeous access to grain is crucial for traders and therefore commercial grain storage

operators must be able to unload grain within a fair amount of time.

But what is fair? "In the case of SACOTA's members, 21 working days could be considered fair; longer than that poses problems," Van der Vyver says. "The trader may then be compelled to sell such stock (outright or often through re-delivery on the JSE) and buy the stock at a commercial storage operator with a JSE-approved and registered silo that is accessible. The trader must deliver stock to a processor whose mill cannot stand without stock, or an export vessel which cannot afford to wait."

The reasoning behind timeous grain delivery is the fact that grain prices fluctuate following availability. At certain times of the year, the grain will be scarce (or scarce in premium locations) and therefore buyers plan and buy grain accordingly. "If you are purchasing more expensive grain, you would want to do that while the grain is still in high demand. If you have to wait until grain levels have increased again, the commodity will lose its value." The owner of the grain will also suffer a loss because the stock cannot be accessed.

> "The timeous requesting of outloading slots and well-maintained and operational outloading equipment depends on good management by the owner of the grain and the storage operator, respectively."

While most grain buyers ensure that they have three or four silos from which they can obtain their grain, commercial storage operators with JSE-registered silos have to honour the stipulations of their JSE contracts so that the JSE CDM's efficiency isn't undermined, and the value of a JSE silo certificate is not diminished, says Van der Vyver.

A commercial storage operator's ability to up- and outload grain also impacts producers, says Corné Louw, Grain SA's applied economics and member services lead. "Any downtime or standing time is a concern."

When it comes to the JSE's CDM grain futures contracts, one could argue that grain producers who deliver to JSE registered silos are not affected directly, but it is not that simple, says Louw. "If a commercial storage operator with a JSE registered silo struggles to outload grain on time at that silo, there is the possibility that buyers will ignore the product stored at that silo. This could diminish the value of grain stored in that silo, with a resulting impact on the producers who store their grain there."

Therefore, standing time has an indirect effect on producers as well. A mature free market that functions effectively is important for all value chain role-players and that implies that sufficient volumes of grain and oilseeds must be available, should the market require it at any given moment or location. This is especially important in terms of grain and oilseed exports.

Guardrails to grain liquidity

Van der Vyver says the grain value chain comprises various role-players with diverse needs. "For SACOTA's members, for instance, it is important that grain should be accessible within a reasonable timeframe, as explained previously."

This is where the rules set out by the JSE's CDM, formerly Safex or the South African Futures Exchange, come into play, he says. Its role is to ensure a fair market for all involved while facilitating price discovery through transparency, an important characteristic of a mature free market.

One such rule is that a commercial storage operator with a JSE registered silo must be able to unload 500 tons of grain from its JSE-registered silos on any workday. However, it does not specifically refer to stock on JSE silo certificates.

Anelisa Matutu, head of commodities in the Capital Markets Division of the JSE, says all JSE-approved commercial storage operators are audited regularly to ensure their adherence to the rules set out on the JSE's website (*www.jse.co.za/sites/default/files/media/documents/detailed-agricultural-contract-specifications/Detailed%20Agricultural%20Contract%20Specifications.pdf* under appendix C and D).

"These rules allow for structure and prevents things from going haywire," Matutu says. "The JSE knows the integrity of the JSE's CDM is based on the integrity of the JSE silo receipt. Therefore, the JSE has increased its monthly reporting obligations as well as compliance visits to commercial storage operators with JSE-registered and approved silos. This is all aimed at ensuring that when JSE silo receipts are issued, the required stock quality and quantity is in fact in the silo."

Consequences of non-compliance

Compliance is the gold standard for South African commercial grain storage operators with JSE-registered silos. However, says Jerry Maritz, managing director at AFGRI Grain Management, there are some problems facing silos, such as Transnet's infrastructure problems – silos were designed to offload onto railway networks and roads, but due to problems with poor Transnet infrastructure, roads now have to bear 90% of loads.

Van der Vyver lists several other practical issues that could impede a JSE registered silo's ability to comply in respect of out loading, which include:

- Loadshedding.
- Fumigation.
- Blocked access roads due to flooding, etc.
- Broken equipment (such as bucket elevators).
- Municipal service delivery issues, such as power outages outside of load-shedding schedules.
- Trucks not showing up despite having reserved an outloading slot.
- Delays at off-loading points (processers or harbours) result in slow turnaround times for trucks.

"Load shedding can limit access to stock in JSE-registered silos," says Matutu, adding that there is no specific JSE requirement for specific alternative energy capacity per silo. This has an impact on product receiving or dispatching. "This means that commercial storage operators will fall short of the 500-ton-per-day minimum outload requirement. We do, however, appreciate that some, if not all, commercial storage operators are investing in alternative energy supply to assist during load-shedding."

Matutu says there is a hefty penalty if a commercial storage operator with a JSE-approved silo is unable to meet its obligations as set out in the JSE's rules. "If an approved silo fails to comply with the JSE requirements for approved silos for any reason whatsoever, the JSE will deregister the silo of the

commercial storage operator with immediate effect.

"In 2021 the JSE added to its contract specifications that buyers taking delivery from the JSE during the main hedging months, have preferential access to 25% of the outloading capacity at commercial storage operators with JSE-approved silos. This was supported by commercial storage operators with JSE-approved silos to enable buyers more certainty when accessing stock delivered per a JSE silo certificate."

Not all silos are equal

"We need to keep in mind that not all silos are equal. Some are very efficient, and others less so," says Van der Vyver. "While some commercial storage operators have gone the extra mile to upgrade their JSE approved and registered silos and improve efficiencies, others still need to do renovations."

In addition, not all silos can necessarily be JSE-approved and registered silos. "JSE registered silos are supposed to set a premium benchmark in the market. This will inter alia include outloading requirements. However, it does not mean all silos should adhere or strive to fulfil such requirements. There is room in the market for everybody," Van der Vyver says, adding that there is no law stating that a silo of a commercial storage operator must be JSE-registered.

"A commercial storage operator responsible for a specific silo's management needs to evaluate its unique situation and decide what would be the best option going forward. What we do ask for is a greater degree of standardisation on the outloading side. For example, despite the 500 ton per day outloading JSE CDM rule, there is no requirement as to how quickly a JSE CDM silo certificate should be outloaded."

The inclusion of a standardised timeframe within which a buyer can expect to out load his/her grain will assist greatly in re-establishing confidence in the JSE delivery and pricing mechanism.

"While this is an individual issue," adds Theron, "it might be something to take into account when the JSE storage fees for the next season are determined by the JSE."

"Issues such as load shedding do have a broad impact on the cost of doing business in South Africa. It is important that these additional costs be addressed for the sake of the entire economic system," Theron concludes.

For more information, contact the participants at the following email addresses: Jerry Maritz at jerry.maritz@afgri.co.za, Johan Theron at Johann@polarstarfunds.com, Anelisa Matutu at anelisam@jse.co.za, André van der Vyver at andre.vandervyver@sacota.co.za and Corné Louw at corne@grainsa.co.za.

JSE CDM compliance nut cracked

By Wessel Lemmer, general manager, Agbiz Grain

Compliance with JSE CDM rules and load shedding is indeed a tough nut to crack for some and the preceding article in this issue of *Agbiz Grain Quarterly* should attest to that fact. Agbiz Grain wishes to respond by assuring value chain partners that they are committed to collaborating with the JSE and other market participants to pro-actively address problems that may impact the market.

Most deliveries in the market do not materialise through the JSE platform, but are delivered in the physical or spot market. Storage operators have many interacting daily clients and Agbiz Grain members strive to service participants (JSE clients included) on a fair and equal basis.

Agbiz Grain is committed to assisting JSE clients to find solutions to improve outloading, but cannot support proposals that will impact the functioning of the market negatively. JSE procedures pertaining to storage operator failures are mostly highlighted and a one-sided debate. In this regard, it is important to be objective and address both sides of the issue.

Generalisation on price divergence

It is a gross generalisation that the delay in outloading will result in a delay to access stock, and thus be discounted in JSE transactions and prices. Different types of price divergence are noted for different reasons, which are not related to a delay to access stock.

Supply and demand for securities

Supply and demand for securities influence intraday price movements on the JSE agricultural commodities market (reference point). Price movements do not necessarily reflect the supply and demand for a commodity driven by fundamental market forces. It does, however, include the outcome of strategies exercised by long and short position holders such as hedgers (millers), individual traders and trading firms (speculators), hedge funds and market makers.

Last trading days

Probability is the highest for excessive intraday price divergence as a result of strategies exercised by long and short position holders during the following instances:

- Any trading day but most probably the last trading day for the main hedging months (±19th to 24th) such as December, March, May, July and September.
- Any trading including the last trading day for all constant months (±19th to 24th) such as October, November, January, February, April, June, August and October.

Unexpected events, response trades

Intraday price movements on the JSE agricultural commodities market (reference point) can result from an unexpected event in the agricultural commodities market. These price movements reflect the change in supply and demand for a commodity and include the result of responsive trades exercised by long and short position holders. This includes hedgers (producers and processors), individual traders and trading firms (speculators), hedge funds and market makers.

The probability of excessive intraday price divergence is highest when a sudden change in the combined supply and demand in the commodities market is followed by the response exercised by long and short position holders. The sudden change in supply or demand impacts the nearby main hedging month.

The following failures of long and short position holders may add to excessive intraday price movements and price divergence:

- *Failure of long-position holders*: Long position holders are not able to accept delivery of physical stock nearing the last trading day due to financial constraints. Their responsive trades with the purpose to close out on their position, as well as prevent taking delivery of physical stock, result in excessive intraday price movements (price decline). This results in a price divergence between the value of the derivative instrument and that of the underlying commodity in the physical market.
- *Failure of short-position holders*: Short position holders fail to deliver due to a shortage of physical stock nearing the last trading day. This results in excessive intraday price movements (price increase) and price divergence between the value of the derivative instrument and that of the underlying commodity in the physical market.

The probability of excessive intraday price divergence is highest when a short position holder fails to deliver physical stock in an inverse-priced market. Rolling the position to the nearby month in an inverse market may have a significant negative impact on the financial resources of the short position holder.

Possible solutions

Agbiz Grain members can proactively address problems on a case-by-case basis. This can be done individually between affected parties and the JSE. It is advised to focus on identifying the concentration risk problem as soon as it becomes known at a specific location.

The JSE should not implement rules following a blanket approach across all locations. Addressing concentration risk will be within the ambit of the individual storage operator's business model and in line with the rules of the JSE. When a problem arises and a dispute is imminent, the affected parties should meet and address the problem. As Agbiz Grain members we remain committed to honouring our storage obligations, thus

ensuring the integrity of the storage industry.

Taking delivery on time

In some cases, market participants request the placement of stock on JSE certificates, but refuse to take delivery on time. Market participants should not be allowed to request the placement of stock on JSE certificates if they are not prepared to take delivery of the stock on time.

Swap stock for an alternative silo

The storage operator does not necessarily own stock in an alternative silo to do a swap. However, if it is possible to swap stock to an alternative silo it can be a solution to give long position holders quicker access to stock. This can only be done on a case-by-case basis.

Rules across the derivative market

The JSE should improve stock access without limiting a well-functioning market by implementing rules across the derivative market. It can increase the risk of unintended consequences.

Accountability for stock pricing

It is the responsibility of the long position holder to be accountable for stock pricing that will take time to outload. It limits the market and impacts all market participants on a national basis without a clear solution.

Monitor concentration risk

Inform the market about locations where concentration risk is relevant and assist storage operators in managing it. This will be at locations where the volume of JSE certificates issued/JSE stock in silo breaches the outloading rate of 500 tons per day through a cautionary statement on the same date as the option expiry date (around the 22nd to 24th of the previous month). The JSE should improve transparency in the form of a cautionary announcement within, for example, four weeks before the last trading day of March, April and May.

Redeliver and add liquidity

The JSE allocates stock on JSE certificates by following a random approach. Market participants that receive stock at a site that does not make sense for their business will redeliver that stock. It is not justified to penalise a market participant for redelivering stock as it adds to the liquidity in the market. Redeliveries may justify a JSE-investigation.

Physical market stock

It is unacceptable that processors (long position holders) 'threaten' storage operators with delivery on the market if they fail to acquire stock in the physical market. This might cause concentration risk at certain locations and justifies a JSE investigation.

Review position limits

The JSE may consider reviewing the effectiveness of current positions and accountability limits, and reportable levels if the JSE does not have sufficient levels and limits in place. Take care not to unnecessarily limit liquidity and access to the market. Position limits are not to be exceeded unless they have an approved exemption. Hedgers may qualify for an exemption.

Position accountability levels are levels that a market participant may exceed and not be in violation of the exchange's rule. A market participant who exceeds the accountability level must provide information such as the nature and size of the position, the trading strategy employed and hedging information.

A market participant who is positioned above an accountability level can be ordered to:

- Not further increase the position.
- Comply with a limit.
- Reduce any open position which exceeds an accountability level.

Reportable levels are levels at which clearing members and foreign traders and funds are required to daily submit information to the exchange.

No general time frame

Storage operators cannot agree to be limited on the amount of stock to issue on certificates or outloading all stock on certificates to a general timeframe. Storage operators do not have any control over how much stock will be requested in any given month for delivery.

If short position holders store all stock in one silo and request the delivery of everything in one month, it will be practically impossible to outload on time. Storage operators therefore cannot commit to a general timeframe of eight weeks. Storage operators cannot commit themselves to a fixed timeframe for the outloading of stock on JSE certificates. There are too many unknown factors beyond the stock controller's control.

Issue sufficient JSE certificates

The accountability for limiting and controlling the issuance of JSE certificates lies with the JSE and not with the storage operator. The JSE is directly accountable to the market participants concerning the issuance of a sufficient number of JSE certificates to ensure liquidity in the market. If not, the JSE will be held accountable by market participants.

Load shedding

Since 2018, Eskom breakdowns increased from about 10% in 2018 to 30% in 2022 while the level of annually planned maintenance remained the same since 2018. It represents on average an annual increase of 7,5% in breakdowns. If this trend continues in the future, it will impact the performance of the outloading rate at silos.

Note that the costs associated with additional backup systems (diesel generators) do not reflect in the JSE storage rate based on the PPI (final manufactured goods). Since more load shedding is implemented, storage operators invested sufficiently in backup capacity. The capital investment is across the board to also assist clients who have stock not on JSE certs but folio as well. This has been appreciated both by the JSE and non-JSE clients.

Conclusion

The compliance of commercial storage operators with JSE-approved and registered silos to the JSE CDM rules are not that complicated. Compliance with the JSE CDM rules to date has been straightforward and clear to adhere to. Agbiz Grain cautioned against introducing changes that would negatively impact the efficient operations of the derivatives market.

Agbiz Grain members adhere to the golden rule and do not issue receipts if the stock quality and quantity are not available in a silo. Only if the JSE introduces requirements that are not practical, does this becomes a tough nut to crack.

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

Competition Commission statements rejected

By Wessel Lemmer

Agbiz Grain and Agbiz recently rejected statements issued by the Competition Commission. The statements cited by the commission are not substantiated by public data. The statements are evident of a lack of understanding of the differences between the price producers receive for commodities, processing costs and margins at the processor and retailer levels.

The graphs used in this article indicate that processors absorbed these costs in the value chain, including significantly higher prices for wheat, white maize and sunflower seed. Margins came under severe pressure.

The following Competition Commission statement is regarded as unfair to the industry: "From January 2022 to December 2022 white and brown bread retail prices (20 and 19%, respectively) have increased faster than producer prices (15 and 14% for white and brown bread, respectively) implying that shelf price increases (R15,47 to R18,62 for white bread and R13,99 to R16,61 for brown bread) may not be justified by costs."

The fact is that the lead time for a processed product to follow a decline in raw material costs is three months. *Figure 1* indicates that the price of brown bread was lower after wheat prices started declining since May 2022. It is important to keep in mind that the price of wheat increased significantly, with processors who had to absorb the increase. The price of brown bread did not follow the price spike of wheat when it started increasing in February 2022.

Maize trends higher than maize meal

The following statement by the Competition Commission is regarded as inaccurate: "The price of maize meal increased 32% going from R26,62 to R35,29 from January to December 2022, while the South African Futures Exchange (Safex) price of white maize increased at a slower rate. The maize price charged by producers was thus a lower proportion of the retail price of maize meal over the year."

Figure 1: Price of wheat versus brown bread (Safex spot price).

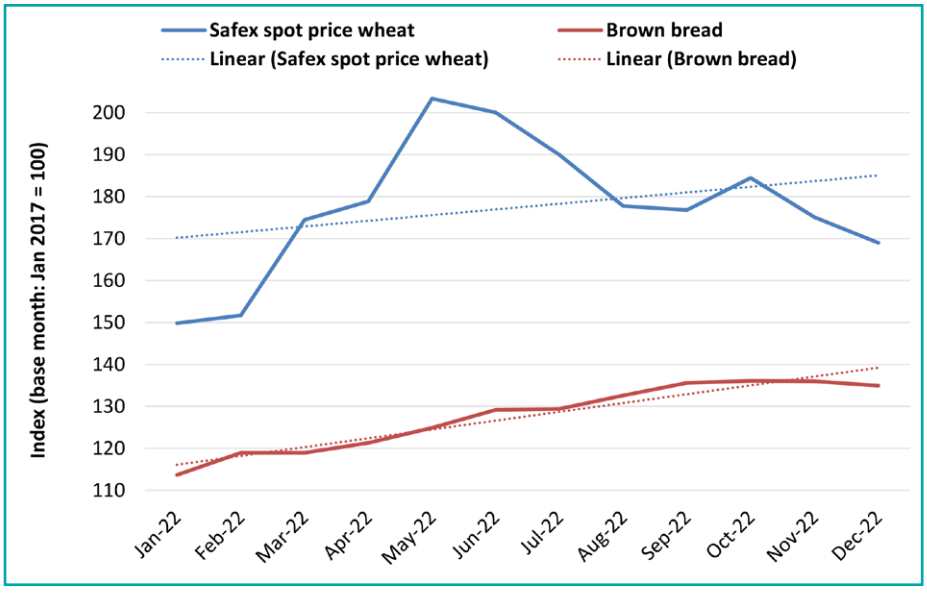


Figure 2: Price of white maize versus maize meal (2kg).

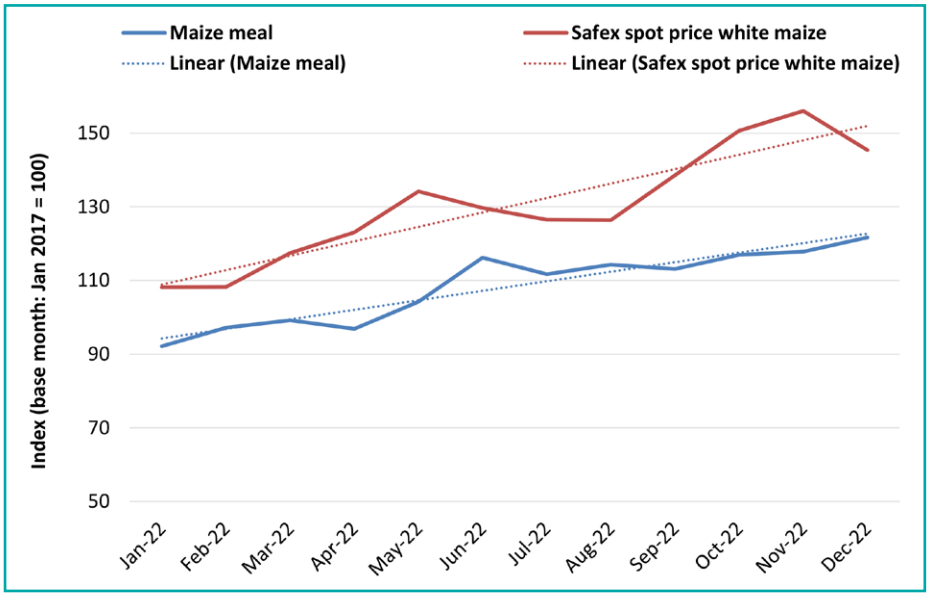
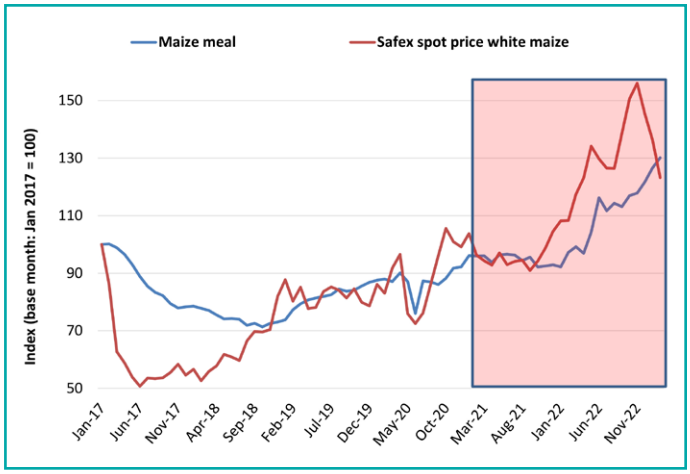


Figure 3: Price of wheat versus brown bread, 2017 to 2023.

Figure 4: Price of white maize versus maize meal (2kg), 2017 to 2023.



The trendlines in *Figure 2* indicate that the price of white maize trended at a higher rate than the price of maize meal. Therefore, the maize price charged by producers is probably included at a higher proportion of the retail price of maize meal.

In yet another statement, the commission noted that it "is concerning and may indicate opportunistic behaviour throughout the value chain and raises questions about the use of export parity pricing throughout the maize value chain." This statement is regarded as unfair and not validated by facts. The fact that South Africa produces sufficient export maize at export parity prices actually increases the affordability and availability of safe staple food if compared to import prices.

In 2022, the white maize price averaged R4 448/ton. This is even lower than the export price (export parity) of maize at R4 816/ton. If South Africa did not produce sufficient maize to export, the country would have been obliged to import maize at an average price of R6 821/ton which was the average import price in 2022. The price of maize in South Africa would have traded 53% higher than the average price of white maize at R4 448/ton.

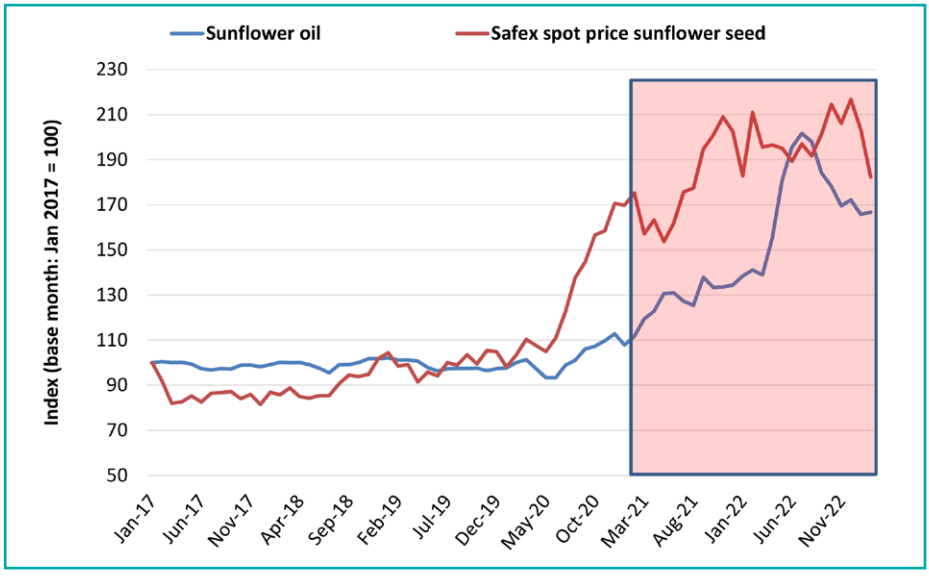
Long-term perspectives

Since February 2018, the Safex spot price of wheat has been trading higher compared to the price of bread (*Figure 3*). This is a clear indication that stakeholders in the value chain are absorbing the increases. The higher price of wheat is inevitable in a bid to recover the cost of bread.

Since September 2021, the Safex spot price of white maize has been trading higher compared to the price of maize meal (*Figure 4*). According to these figures, stakeholders in the value chain are the ones absorbing the increase in the price of white maize.

Since November 2022, the price of white maize declined significantly. A decline in the price of maize meal is normally expected as soon as millers start processing higher priced stock. The lead time before white maize is processed into maize meal is around three months, and therefore the lower white maize prices should reflect from April onwards.

Figure 5: Sunflower seed versus sunflower oil (750ml).



Sunflower oil price decline expected

Since March 2021, sunflower seed prices started increasing and as a result, sunflower seed oil prices also increased (*Figure 5*). Sunflower seed prices started declining sharply by December 2022 and consumers can expect sunflower seed oil prices to follow suit from April 2023 onwards, after the lead processing period.

For more information, phone 012 807 3002 or visit the Agbiz Grain website at *www.agbizgrain.co.za*.

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Impact of load shedding on the grain storage sector

By Koos du Pisanie, Plaas Media

The impact of load shedding does not stop at the farm gate. During a recent online workshop of the Grain Handling Organisation of South Africa, GOSA, Wessel Lemmer, general manager of Agbiz Grain, said load shedding has a detrimental impact on the grain storage sector, with every phase such as inloading and outloading of grain, fumigation, aeration, and drying being affected. Moreover, producers who irrigate need to have electricity to supply water to their crops at critical periods, and they recently made an effort to create awareness of the dilemma load shedding causes.

Reduction in storage capacity

Lemmer said that Eskom is supposed to perform maintenance on all its equipment annually. However, a severe lack of maintenance has led to a 20% increase in the number of breakdowns from 2017 to 2023.

Storage operators in the grain-handling industry must increasingly rely on diesel generators during load shedding. This is an expensive exercise and it has even become difficult to procure generators – in some instances, there is a backlog of up to six months.

The cost of alternative energy

Generator usage tends to impact storage costs as diesel is approximately six times more expensive than electricity. "There is a strong correlation between economic growth in a country and the availability of electricity. The grain value chain is a good example. Load shedding has an impact on the entire value chain – from the producer who has difficulty producing a big enough yield come harvest time, to the storage sector, processor, and baker.

There is a lot of uncertainty regarding food security because product availability is adversely affected. Products become more expensive due to additional costs in the value chain, Lemmer explained.

He went on to explain that food security comprises of several elements including affordability, access to, safety, and nutritional value of food. Economically speaking, food prices are supposed to stabilise. "Inflation on food products rose by more than 9,2% over the past year. If more diesel is going to be used to ensure food security, the price of grain products may well increase."

Impact on storage tariffs

Load shedding also has an immediate effect on storage tariffs. The Johannesburg Stock Exchange (JSE) storage tariff depends on the monthly producer price index (PPI) that is implemented four months before the start of the relevant marketing year. Of the total volume of maize produced in South Africa, approximately 25% is sold through the JSE.

"Imagine us entering the next marketing year for maize starting May, and the JSE storage rate does not timeously reflect the actual costs but reflects only the once-off change in the PPI for January over 12 months of the maize marketing year. The non-correlation between the JSE storage rates and the changes in storage costs will soon become evident. In a survey conducted by the Bureau of Economic Research three years ago, it was revealed that electricity made up 10,1% of storage costs. Along with load shedding and the use of generators, this number will be significantly higher.

Challenges at storage facilities

Delays at inloading and outloading are going to be one of the major challenges facing the industry. For instance, over the past two years storage operators in the Western Cape were compelled to install generators at a high capital outlay.

"Storage operators and producers will inform you that if you cannot deliver harvested wheat to the silo on time, you run the risk of weather changes, including rain during harvest and on the crop, as well as downgrading once the commodity arrives at the silo. Producers' income will be impacted if storage operators do not have expensive backup systems in place."

Stocks may build up in silos at the end of the marketing period. This can increase concentration risk, especially during outloading, as storage operators are expected to deliver a certain amount of grain on time. It is not always possible when load shedding disrupts operations.

Price convergence between the JSE price and the spot prices of commodities at delivery is important. Delayed outloading due to load shedding merely serves to increase uncertainty. The timing of delivery of stock on JSE certificates is therefore crucial in the grain business.

Moreover, load shedding has an impact on the safety of food at storage facilities. This includes processes such as fumigation to decrease insect infestations, aeration to cool the grain down, and the drying of grain to lower moisture levels. When these processes are not applied it will impact the producer, storage operator, processors, and consumers. Damage to communication systems and staff who work overtime can also pose challenges.

Load-shedding solutions

"Not much can be done about the load-shedding problem," says Lemmer. "Solar power is practical for office buildings, but moving grain in bulk requires a lot of energy."

Agbiz is assisting Agbiz Grain's storage operator members by communicating with government institutions, Eskom, and other role-players to negotiate solutions such as the availability of accurate load-shedding schedules and the implementation of flexible load-shedding arrangements.

For more information, contact Wessel Lemmer at 012 807 3002 or email wessel@agbizgrain.co.za.

SA grain industry shares notes with French counterparts

By Phillip Crafford

South Africa is one of the maize exporting countries in the world, and has sufficient storage facilities in the form of silos and bunkers. EMC2, a French agricultural co-operative from Lorraine in France, approached AFGRI with a request to visit their facilities in order to learn more about the grain storage protocol for silos in South Africa.

As part of the programme, AFGRI and Agbiz Grain provided some background on the South African grain landscape to delegates. From the left are JJ Joubert, AFGRI Bronkhorstspruit facility manager, EMC2 board member Philippe Mangin, Wessel Lemmer, general manager of Agbiz Grain, Bruno Didier, EMC2 chairperson, Arnaud Le Grom de Maret, EMC2 general manager, and Jan de Sousa, operational manager, AFGRI Grain Management.

EMC2 aims to support the Lorraine region's producers when it comes to crop and animal production. The company offers support through crop protection, product procurement, crop storage, agronomic advice and seed production solutions.

The visit to AFGRI included a technical tour of the AFGRI facilities, as well as an introduction to the South African grain and maize markets, and legislation. Compared to France, South Africa is a significant, albeit smaller, maize-export country. In South Africa maize is stored in privately owned silos located at commercial storage operators and on-farm storage. France has only one planting and harvesting season, whereas South Africa has two.

The EMC2 representatives observed how South Africans store multiple harvests efficiently despite only 15% of the crops produced being accrued from irrigated fields.

Learning from the best

AFGRI oversees a diverse portfolio that includes grain management, equipment and financial services. The company celebrates its 100th birthday this year, and is proud of its rich history and flagship storage facilities in Bronkhorstspruit.

Jan de Sousa, operational manager at AFGRI, informed the French delegation of the company's history and explained AFGRI's role in the South African grain value chain. He explained their role as a grain storage and management service provider. AFGRI's 90 storage facilities include 69 silos and 21 bunkers. They manage approximately 5,1 million tons of winter and summer crops annually, ensuring that quality is maintained throughout the storage period. A total of 160 000 tons of winter and summer crops can be stored at the Bronkhorstspruit facility.

De Sousa also explained the genetically modified organism (GMO) protocol employed by AFGRI. This involves storing GMO and non-GMO grains separately, and the procedure involved in cleaning equipment after handling of GMO grains. AFGRI introduced the protocol in 2010, which has since been successfully implemented from seed level.

Together with this strict protocol, AFGRI evaluates all incoming and outgoing grains to ensure crop quality. This forms part of the strict food security regulations the company adheres to. Moreover, their service to clients is of the highest quality – for example, if a client stores grade 1 maize at the Bronkhorstspruit facility, the client will always receive grade 1 maize when requesting a delivery.

The grading of grains is regulated by the South African Department of Agriculture, Land Reform and Rural Development (DALRRD) according to the *Agricultural Product Standards Act*. De Sousa added that it is important to maintain positive relationships with local government, service suppliers and producers.

Building a future-orientated business is a vital part of success, he said. "The small-scale producer of today might grow to be one of your biggest clients. Planning for the future involves formulating plans to overcome current logistical challenges such as poor road infrastructure and railway transport."

The South African grain landscape

Wessel Lemmer, general manager of Agbiz Grain, discussed the South African grain industry in more detail. Agbiz Grain was established through the membership of the 12 largest South African commercial grain handling and storage companies, which handle around 70% of the national

crop consisting of white and yellow maize, sorghum, wheat, barley, soya beans, sunflower and canola. Agbiz Grain members own 333 silos and the majority of these silos (295) are JSE-approved and registered sites. The total registered capacity concerning JSE products specific to Agbiz Grain members, totals almost 18,3 million tons (18 297 181 tons).

The South African grain industry faces similar challenges as the French industry, the biggest being the current energy crisis, water supply and logistical problems. The role of Agbiz Grain and Agbiz is to facilitate and assist the development of a sustainable legislative and commercial business environment for the storage operators of grain and oilseeds, and their suppliers of services and goods in the value chain. Agbiz Grain collaborates closely with the respective grain and oilseed forums, commodity trusts, commodity associations, trade associations and national government to ensure sufficient legislation, regulations, protocols and research to assist the grain and oilseed sector.

Lemmer added that the Johannesburg Stock Exchange Commodity Derivatives Market (JSE CDM) operates a derivative market for the purposes of hedging and price discovery. On average, 25% of the total grain and oilseeds market are delivered via JSE certificates to buyers.

Supportive non-profit entities include the South African Grain Information Service (Sagis), the South African Grain Laboratories (SAGL) and the South African Cultivar and Technology Agency (SACTA). SACTA was created as the legitimate central institution which administered the breeding levies for self-pollinated grain and oilseed crops. Agbiz Grain members support these organisations respectively by submitting information, grain and oilseed samples and to collect levies on SACTA's behalf. Levies are also being collected for Grain SA and the South African Winter Cereals Industry Trust (SAWCIT).

Malting barley storage

A topic that arose during the visit was the protocol regarding the storage of malting barley. France and South Africa both produce malting barley, which is an essential ingredient in beer production. The sufficient storage of malting barley is important to meet the quality requirements of maltsters.

In South Africa, maltsters require that malting barley must be stored between three to 18 months before malting while a 97% germination rate applies throughout this period. In European countries such as Germany a nine-month storage period is applicable at a 95% germination rate. Pierre Zacharias, an EMC2 board member, confirmed that France follows the same protocol as Germany. Lemmer stated that the requirements in South Africa, such as a longer required storage period at a higher germination rate of 97%, indicate that the South African storage sector, compared to France and Germany, is exposed to higher risks and potential financial losses.

Agbiz Grain currently engages with the relevant stakeholders and research institutions involved in the South African malting barley value chain including AB Inbev, the most significant buyer of malting barley in South Africa, on the matter.


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South Africa and the export market:

The sun will shine for those who persist

By Japie Snyman, vice president grain, Olam Global Agri

South Africa, with its ability to export 350 000 to 400 000 tons of grain per month, is a small player in the global agricultural export market, yet still competes with the best in the world. Despite South Africa not being a major or constant supplier in the international grain market, exports are essential to stimulate and grow the country's agricultural industry and the economy. That is why every aspect of exportation is important to maintain profitability.

The international export market is very competitive, South Africa's biggest advantages are its location, resilience, and currency. The country's location provides a significant advantage competing with the world's top agricultural exporters. It has a freight benefit of US$10 to 20 over certain origins. The higher the load component and the higher the base freight rate, the greater the benefit.

Local producers can adapt and perform well, even amid infrastructure challenges. Resilience therefore can be regarded as another advantage. If we constantly produce and process more and get into the habit of exporting our final products, there may be even greater benefits for the country's economy.

The infrastructure challenge

Infrastructure (logistics and ports) is a major concern among all role-players in the agricultural sphere and especially in the grain sector. Luckily, our grain storage facilities and the ability to store and handle grain efficiently while maintaining quality are excellent and our grain handling facilities compare with the best in the world.

Everyone knows the economies of scale of rail transport are far superior to that of road transport. Yet the amount of grain transported by rail to our export ports has decreased from around 50% over the past ten years to below 15% in 2022.

South Africa cannot export grain fast enough and therefore remains at export parity for extended periods. The rate at which the loading points at the Durban port, for example, can load or receive grain ranges from 7 000 to 8 000 tons per day, while world norms vary between 10 000 and 15 000 tons per day. Some points can even load up to 25 000 tons per day.

Unfortunately, congestion is very high at our main export port in Durban. Richards Bay is now mainly a mineral port while East London is ineffective and has a draft restriction to load a maximum of 44 000Mt. Cape Town's facility is mainly used for imports, while maize exports are near impossible through Cape Town. Gqeberha is also an impractical port for grain exports.

Opportunities and misses

Durban, being our main grain export and import port, has a capacity of around 400 000 tons of grain per month. The base cost in Durban is determined by transport, distance to the port, load rate, quality, availability, etc. The base and handling cost are very similar for everyone. However, the export premium varies between exporters.

South African Bulk Terminals (SABT), Durban Bulk Shipping (DBS) and Agriport are the three main grain export facilities. Our export/import facilities have enough capacity to handle our demand on an annual basis; unfortunately, we are missing opportunities and remain at export parity price for extended times because of the limited monthly capacity. We will need to keep our loading points functioning

World norms for receiving and loading grain vary between 10 000 and 15 000 tons per day, with some able to load up to 25 000 tons per day.

optimally and improve logistics throughout the value chain.

Load shedding and weather

The most grain South Africa has ever exported was around six million tons during 1989/90. The past three seasons (as a result of La Niña weather conditions) resulted in the export of some three million tons of maize per calendar year.

> "Luckily, our grain storage facilities and the ability to store and handle grain efficiently while maintaining quality are excellent and our grain handling facilities compare with the best in the world."

Other challenges that have a major impact on production, and therefore also on potential export volumes, are load shedding and South Africa's weather patterns. It would be advantageous if South Africa could consistently produce more grain. However, this would require larger areas under irrigation.

South Africa has experienced growing La Niña weather conditions over the past three seasons. This has only happened three times in recorded history, namely 1973 to 1975, 1998 to 2001, and 2020 to 2023. El Niño (warmer and drier) conditions are forecasted to return during 2024. La Niña with its wet weather posed some serious challenges, but on the other hand we also cannot afford an extended mid-summer drought.

Higher production drives growth

Local production can be expanded with improved farming practices such as constantly improving seed varieties and increased area. This could also result in South Africa producing a surplus that can be exported on a regular basis. For example, soya bean production has grown by 220% over the past ten years from 800 000 tons per annum to 2,7 million tons per annum. It is projected that close to three million tons could be produced in 2023.

South Africa's average maize yield is about 5,4t/ha, which is around 2,5t/ha less than Argentina's average yield of almost 8t/ha. If South Africa can match Argentina's average yield, we could produce 20 million tons per annum, which is around 35% higher than current levels.

Value chain costs

Costs are added at every link of the value chain, and one can rightly ask whether it is indeed a value chain or a cost chain, and who the so-called middleman truly is.

These cost-adding links include costs from soil analyses, agricultural economists, sellers of chemical products, seed, fertiliser, fuel and implements, mechanics, grain and currency traders, silo costs, inspection agencies, transport, quality inspectors, shipping, etc. The industry needs to ask itself whether each of these processes or middlemen really add value.

The cost components differ between first- and third-world countries. First-world countries are more competitive, are subject to less currency control, value chains are shorter, economies of scale are larger, and trading terms are usually favourable and protected by means of levies, trade barriers and policies.

Grain can be traded in various ways and there is an arsenal of instruments that can be used to reduce the risk of grain trading such as spreads, splits, options, arbitrage, Algos and seasonality.

Traders are key

The trader's role in this process is not always easily defined. The bottom line is that the price of a commodity comprises of various components, of which the basis price is only one. Therefore, had it not been for the trader that could address some of the risks, the products could not have been exported effectively. The export market is very competitive because one not only competes against the South African industry, but against world producers.

Other countries in Africa do not accept genetically modified (GM) products. South Africa must therefore compete with the world for the Southeast Asian market share – a market whose consumption is roughly 35 million tons per year. Moreover, Southeast Asia offers freight advantages to the South African grain industry.

The industry could also explore the possibility of developing niche markets to absorb the surplus and put pressure on government to negotiate favourable trade agreements.

South Africa is faced with many challenges, but it is important to remember that every challenge presents opportunities. Industry should remain positive and be grateful that it can trade in a growing environment. Our shortcomings are indeed surmountable.

For more information, contact Japie Snyman at japie.snyman@olamagri.com.

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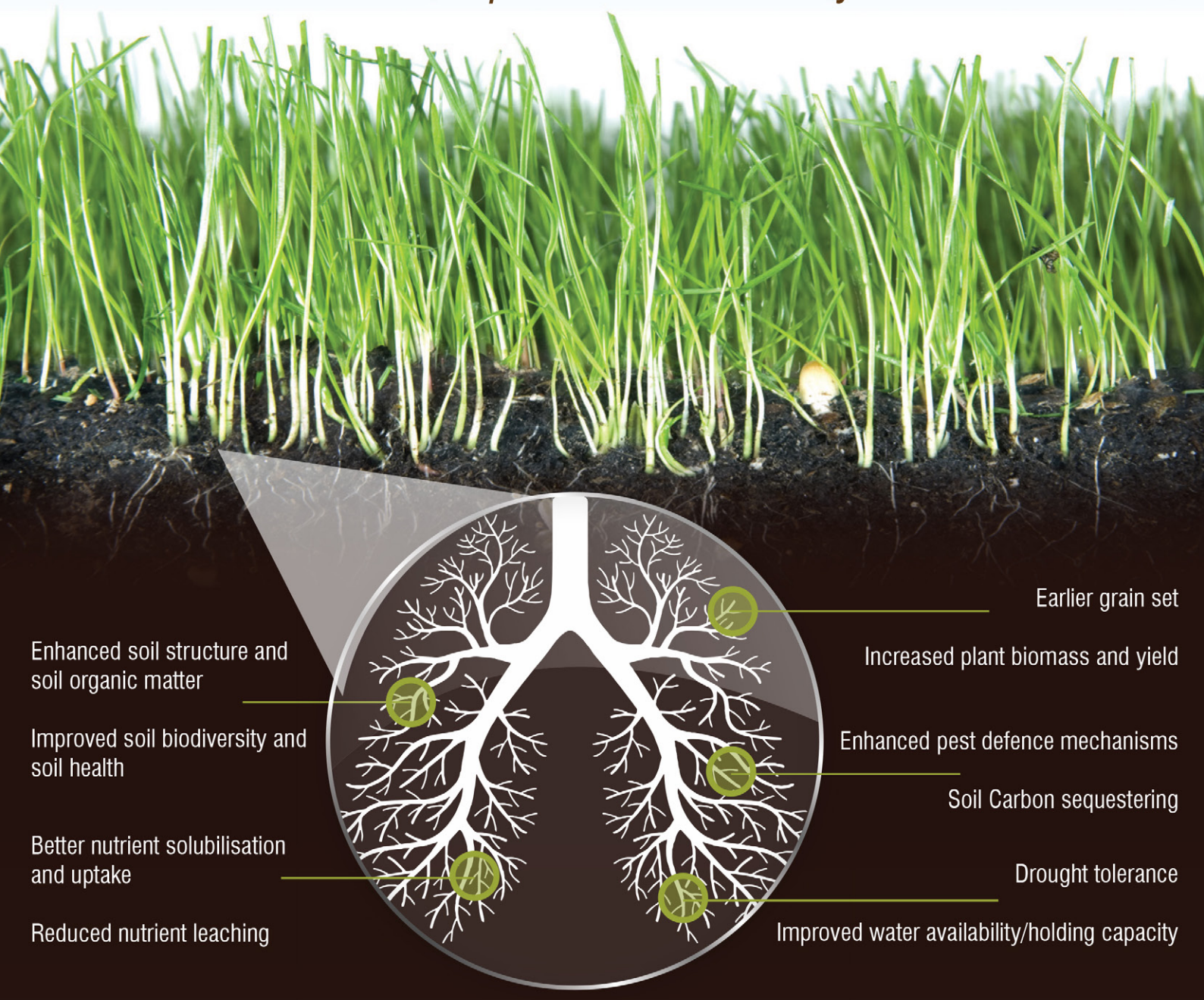

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Key export markets must be harnessed

By Chris Jooste, Plaas Media

South Africa's grain industry must take advantage of export opportunities by investigating alternative ports for exporting agricultural products. Durban, being the main port, is completely oversaturated, which makes identifying alternative options even more important. In terms of exporting grain, East London is a viable option and Maputo may also hold excellent export opportunities to help with product flow from South Africa to the rest of the world.

South Africa's agricultural output grew steadily over the past few years once drought conditions started to ease up. However, production of white maize outpaced the demand for this commodity, which led to the accumulation of surplus stock, said Dr André van der Vyver, executive director of the South African Cereals and Oilseeds Trade Association (SACOTA), at the Grain Handling Organisation of South Africa (GOSA) Symposium held in March this year.

This made it possible to export maize every month, especially during the past two years – export parity has remained mostly stable over this period. South Africa normally exports yellow maize globally but towards the latter part of last year white maize export opportunities also increased. For the 2022/23 season thus far, approximately 1,44 million tons of white maize and 1,98 million tons of yellow maize have been exported.

The outlook for soya bean production was similar, with yields exceeding local demand, which led to surplus stock. Soya bean production used to lag behind demand, making exports impossible, but during the last two years this situation improved and the commodity is now being exported to different countries.

New markets and transport

South Africa's soya beans are of a suitable quality, making it an attractive option for certain importing countries, particularly those in the Far East. This has opened up a number of new markets. In the 2022/23 season, around 258 000 tons of soya beans were exported to countries such as Malaysia (59%), Thailand (19%), Vietnam and Bangladesh (both 11%). Recently, a protocol was signed regarding the exportation of maize and soya beans to China. Countries such as Indonesia and Egypt also have a lot of potential.

For producers to export their commodities, affordable transport is needed, says Dr Van der Vyver. South Africa depends on rail transport as it remains the cheapest mode of transport. However, over the years the country's rail network has deteriorated to the extent that these days, limited quantities of maize are transported this way. Road transport has to make up for the bulk, but this comes at the expense of profitability.

The floods in KwaZulu-Natal caused rail transport to drop sharply, and quantities have not recovered since. Durban, as the export port for maize, has suffered serious damage, which meant that a much smaller volume of maize could be exported by rail. The port has the potential to export 350 000 tons of maize per month (118 000 tons by rail). Since July 2022 an average of 196 000 tons of maize were exported per month, but unfortunately only 12 000 tons per month were transported by rail.

Storage and access to stock

Regarding the storage of grain, Dr Van der Vyver said that each JSE-approved silo has a published outloading rate per hour and a total storage capacity – the speed at which grain can be outloaded from a silo plays a major role. Not all silos are fully utilised and there are differences between commodities stored. Some silos also perform better or worse than the published rate.

He said the ideal would be to standardise access to stock held on a JSE certificate. This includes the minimum requirements for outloading and implementation of penalties for non-compliance. Without such standardisation, users of physical stock will not be able to put a price on the economic value of the grain in the silo.

Dr André van der Vyver.

Among the solutions are that buyers who want to outload physical stock should be able to identify their maximum cost and the maximum timeframe. The JSE derivatives market is standardised in terms of type, quantity, quality, price, location and expiry period, but it is currently not standardised in terms of the timeframe for accessing the physical stock.

For more information, contact GOSA on 082 771 1914 and info@grainorgsa.co.za, or visit their website at *www.grainorgsa.co.za*.

South African grain technology now in international demand

By Izak Hofmeyr

Earlier this year, Ronin System Solutions, a well-known supplier to the grain handling and storage industry, exhibited at the GEAPS Exchange 2023 in Kansas City, Missouri. Ferdi Meyer, group marketing and sales manager at Ronin, attended the event and, he says, it is clear that the South African grain industry is taking the lead in terms of technology and management, compared to the rest of the world.

GEAPS, or the Grain Elevator and Processing Society, is an international society for grain handling and processing industry role-players. Typically American, the expo is described as the biggest and the best in the world.

The Ronin stand at GEAPS 2023 was a hive of activity and the staff answered numerous questions, especially regarding Ronin's laser components.

Laser technology at GEAPS

"The GEAPS expo," explains Ferdi, "originated in America and is an international platform that focusses on improving the grain industry through technology, best practices, training and management. The expo also serves as platform where input and service suppliers from across the world can showcase and demonstrate their products. It is with the latter in mind that we attended the expo, as we specifically wanted to market our laser technology."

This was the third time that Ronin exhibited at the expo. The first was in 2001 and the second in 2014. "When we exhibited in 2014, we gathered from the questions people asked, that the market wasn't quite ready for our product. For example, they wanted to know why people would want a stock control system if they already had a weighbridge."

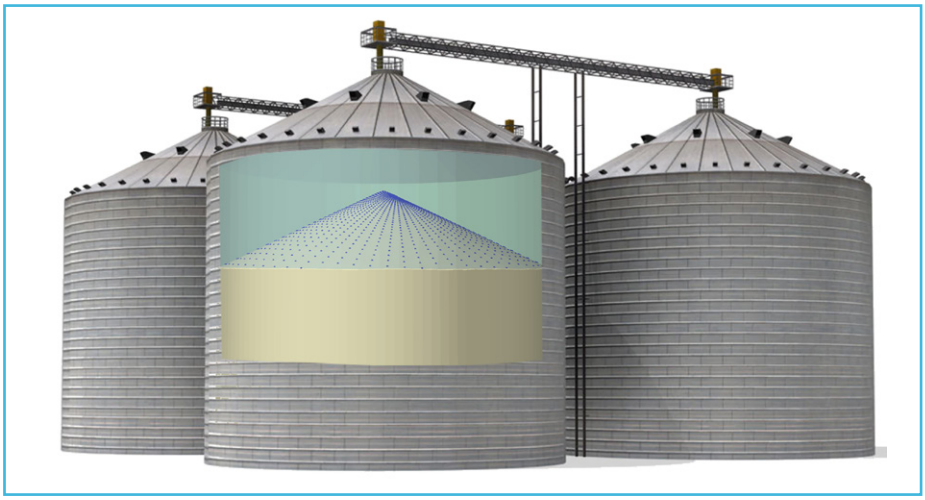
"This year, after an absence of nine years, people were more open to the technology we are offering. It appears that global developments relating to commodity prices and food availability have brought about a shift in focus where stock management are concerned. There is considerable interest in the digital and hardware sensors utilised inside the silo for effective stock management. This involves aspects such as quality, temperature and humidity monitoring, as well as CO_2 monitoring.

"Ronin's locally produced 1D, 2D and 3D laser components for different sizes of silos or bunkers attracted the most attention," says Ferdi. "There are a number of large companies interested in obtaining our technology."

Accurate volume determination

"Lasers are installed inside the silo for accurate volume measuring. This will show any variance in volume, which can then be compared to the loading and unloading documentation, as well as quality information. This way, you will be able to monitor the content of each silo –

Figure 1: A representation showing how Ronin's laser technology generates information pertaining to the exact grain volume inside a silo.



for example for how long the grain is left in the silo, and whether any of the grain has 'disappeared' from inside it.

"There are clever methods to make grain disappear from silos, whether it is via financial transactions, weighbridge 'errors' or other deliberate errors. So, if you don't do daily grain checks, problems will only surface once the silo is empty. This is where our laser technology comes into its own."

Technology that's ahead of the pack

"If you take the number of role-players in the South African grain industry who are using our technology to monitor silos," he continues, "it is obvious that we are far ahead of our American counterparts.

However, if you consider where our silos are located, and the potential risks involved, it might just be possible that the American and South American markets also face the same risks, if only in part.

"In the nine years since we last exhibited at GEAPS, there has definitely been a shift. At the time, people who had to deal with theft or unexplained shortages were the only ones interested in our technology. Even a good silo manager can experience losses if he takes his eye off the ball. Today the situation is different. The combination of real-time information and accurate management change business opportunities as well as the way they are managed," says Ferdi.

"When it comes to the South African grain industry, we are ahead compared to the rest of the world, especially when it comes to the day-to-day management of grain silos. We have world-class companies with excellent people and quality infrastructure."

For more information, call Ferdi Meyer 083 293 0336.

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Innovation with Integrity

Preventive maintenance limits costs

By Chris Jooste, Plaas Media

Preventive maintenance of weighing equipment is a crucial step in getting grain to its destination. It limits costly breakdowns and repairs, contributes to overall accuracy and prolongs the lifespan of the equipment.

If you maintain your work area daily, you can be sure that everything will run smoothly. The depot manager is on site for more than 200 days a year. "He can act fast and solve problems immediately," said Wayne van Vuuren, technical manager at Massamatic, during a symposium of the Grain Handling Organisation of South Africa (GOSA) held in March.

The depot manager has certain responsibilities such as the daily testing of scales and regular cleaning to keep them in good working order. Preventing problems caused by vermin is also crucial. "The depot manager should inspect the weighbridge deck and hopper regularly and report all incidents and problems to Massamatic," says Van Vuuren.

"In turn, Massamatic will conduct maintenance and testing through the year, report problems, make recommendations, verify and issue certificates pertaining to legal metrology, and assure our client that their systems are in good condition."

Checklist for a weighbridge

A comprehensive checklist of duties carried out regularly should provide answers to weighbridge issues. This checklist should include a section where the weighbridge and its surrounds are thoroughly inspected. Make sure there are no binds and that the bridge moves freely. The pit should be inspected for debris, mud and water as it may cause inconsistent measurements.

Regular variation tests should be conducted by parking a vehicle in the middle and then at the ends of the weighbridge. Park a heavy vehicle on one third of the scale, in the middle and at both ends and note the readings. The weight variation should not exceed 20kg.

Use a forklift to perform an eccentricity or corner test. Park a heavy forklift on each of the loadcell/pivot points and note the readings. The variation in weight should also not be greater than 20kg. Check scales by performing a cross-check or weight comparison between them.

Visual inspection of electronic components is also vital and includes looking for any signs of vermin. Solve the problem as soon as possible or prevent it by keeping the area clean. The weighbridge is an expensive piece of measuring equipment, so make sure drivers do not misuse it. If you do come across mechanical problems, do not weld on the weighbridge.

Checklist for hopper scales

Checking hopper scales is equally important. Inspect and ensure that the sleeves are clean and free of tears. Sleeves should fit properly and be fastened at both the top and bottom for a tight seal. They can be removed and washed with hot soapy water.

Ensure the hopper is free of binds and that nothing restricts it from weighing accurately. Identify critical areas and implement preventive measures. Inspect all mountings and tighten them if necessary. A lack of maintenance can lead to costly repairs and unnecessary down time. Vertical and horizontal flexures align and balance the hopper to determine the ratio and accuracy. Therefore, flexures need to be level and not damaged.

Ensure the loadcell/s is mounted correctly and secured with tie rods and that levers are level and seated correctly. Check that all gates are functional and not leaking. Leaking gates may be due to a loss of air pressure, mechanical defect or faulty pneumatics.

Wayne van Vuuren.

Inspect the pneumatic system for leaks such as loss of air pressure or air leaks from valves, connectors, exhausts/restrictors and pipes. Water leaks can be detected through blocked and discoloured pipes and pneumatic oil leaks at the service unit.

Basic maintenance of the pneumatic service unit includes making sure that the regulator pressure is at least six bar. Check the level of pneumatic oil and top up to the recommended mark if necessary. Drain the water from the water trap. To perform a visual inspection of all the electronic components, ensure that the reading is set to 0kg, and the weight is stable. Then press start and follow the prompts.

Be sure to leave major repairs to professionals when it comes to both the weighbridge and hopper scales.

For more information, email Wayne van Vuuren at waynevv@massamatic.com.

ProFume:
Setting new standards in fumigation

With 25 years' experience in public health pest control, post-harvest pest control and vegetation management, Henchem Environmental Management Solutions is a specialist distributor that knows what it is doing. Henchem recently launched ProFume fumigation gas and over the past 36 months successfully introduced it to the stored product pest control market across South Africa.

ProFume is a colourless, odourless, highly penetrating fumigation gas. ProFume's main active ingredient is sulphuryl fluoride. Fluoride is the simplest anion of atomic element, fluorine. It is an abundant natural element that occurs in soil, water and plants. Small amounts of fluoride are considered a micronutrient to humans.

ProFume targets a wide range of structural wood-destroying, stored-product pests and general pests through all life stages. ProFume's main ingredient, sulfuryl fluoride, enters an insect or other arthropod and the compound is then broken down to the insecticidally active fluoride anion. The fluoride anion disrupts the glycolysis and fatty acid cycles, depriving the insect of the necessary cellular energy. Insecticidal activity results from fluoride inhibition of enzyme systems utilising magnesium within the glycolysis.

An all-rounder fumigation product

ProFume is relatively inert as it does not react with buildings and equipment, and leaves no detectable residue. ProFume is non-flammable and non-corrosive.

The product is suitable for use in the following sites:

- Residential and non-residential structures.
- Non-food commodities and select food commodities.
- Construction materials, furnishings, equipment and electronics.
- Food-handling establishments.
- Stationary transportation vehicles.
- Temporary and permanent fumigation chambers.
- Storage structures.

ProFume can be used with commodities such as grains, nuts, dried fruits, legumes, dried spices, cotton seed and rice. Intensive trials by international stored-product research laboratories and agencies confirmed that ProFume has no effect on the quality, taste, commercial value, nutritional and baking qualities and/or germination of commodities fumigated with ProFume.

ProFume adheres to the United Nations' Framework Convention on Climate Change's regulations on greenhouse gases. It is safe for the environment and atmosphere and doesn't contribute to global warming.

Implementation across South Africa

Henchem started implementing ProFume across South Africa in May 2019. The number of companies that signed up to use ProFume in 2019 was six and grew to a total of 56 companies during 2022. During the past three years, more than 50 000 tons of rice and maize were successfully fumigated by means of 30 silos, 2 000 rail carts, 200 trucks and 500 stack fumigations.

Fumigators and their commodity customers reported that ProFume's various benefits makes it an excellent alternative for both methyl bromide and phosphine as a fumigation gas. ProFume offers flexible fumigation, long- and short-term fumigation options, combats phosphine resistance, and is non-corrosive.

ProFume can only be applied by certified Profume fumigators who completed the

ProFume stewardship programme and purchased the minimum safety equipment. ProFume, different from other fumigants, will always turn into a gaseous form at any temperature. It is recommended to fumigate during warmer temperatures due to insects reducing their breathing patterns in colder temperatures and thus making fumigation less effective.

Technologically advanced

ProFume is at the forefront of technological advancement as the product is used in conjunction with Fumiguide software. The dedicated software is used to plan the fumigation according to site-specific conditions, but also provides guidance during fumigation, making adjustments when necessary, to ensure that all life stages of the target pest is always controlled.

Fumiguide allows for flexible fumigation from as low as eight hours to up to seven days. The program will also confirm when the target dosage has been achieved and aeration can take place. After the fumigation, the Fumiguide software will generate a scientific report containing detailed data and graphs regarding the entire job. It will confirm that the target CT was achieved, that the commodity wasn't over-exposed and it will indicate the actual gas tightness of the structure. This information is valuable for adjusting future fumigations, as no two structures are the same.

The only residual action after fumigating with ProFume is very low levels of fluoride. Monitoring is therefore required to ensure that a maximum of 1 500CT was not surpassed. Products fumigated with ProFume are estimated to contribute only to total daily fluoride intake of 0,7 to 2,3%. Some 97 to 99,3% of daily fluoride exposure to people still comes from other sources such as diet (food and beverages), water, toothpaste, etc.

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Contact Henchem Environmental Management Solutions to get in touch with the ProFume technical sales manager in your area. Visit *www.henchem.co.za*.

Fire protection compliance: Life over limb

By Christal-Lize Muller, Plaas Media

South African legislation stipulates that all buildings must comply with minimum fire protection requirements. Non-compliance could result in the loss of life and property, which should be avoided at all costs.

Important aspects were highlighted during the fourth Agbiz Grain and Agbiz virtual SHEQ workshop on fire protection compliance, fire industry services and fire detection. Liebrecht Swanepoel, a qualified fire engineer and director of LDS Fire Consulting, and Ben Badenhorst and Marius van Zyl from Fire-Quip facilitated the workshop in March.

Swanepoel, who has 37 years' experience in fire protection, discussed fire detection in detail. He said fire detection can be defined as the study of fire to learn more regarding its causes, detection, extinguishing techniques, as well as equipment. This includes the rules and regulations applicable to construction sites. Fire regulations must be enforced daily in all building occupancies as per the *South African National Standards (SANS) 10400-T*.

Active and passive systems

Fire protection systems include passive systems involving the design and infrastructure of a building, the use of fire-resistant material in construction, and fire isolating provisions such as fire walls and doors. Active fire protection systems include automatic sprinklers and/or fire detection systems.

Swanepoel said the basic principles of fire protection includes ensuring the safety of occupants, minimising the spread and intensity of fire, controlling and minimising smoke generation and spread, ensuring sufficient building stability, provision of adequate fire detection and extinguishing equipment, as well as ensuring fire department access.

Badenhorst, with 38 years' experience in the fire prevention industry, highlighted the fact that fire service companies, which provide quality fire-fighting training, and supply and service equipment, need to be accredited. These typical 1 475 companies, such as Fire-Quip, must be registered with one of three certification bodies, including the British Standards Institution (BSI), South African Certification and Auditing Services (SACAS), and the South African Bureau of Standards (SABS).

Van Zyl, who specialises in smoke detection and gas suppression, referred to the SANS 10400 building regulations table which specifies the type of system that should be implemented for different building occupancies. For example: Moderate Risk Commercial Service – B2, Moderate Risk Industrial – D2, Moderate

Figure 1: Classifications of fires with reference to the type of fire extinguishers to be used. (Source: Liebrecht Swanepoel)

Type (Fire / Extinguisher)	CLASS A Combustible materials (e.g. paper & wood)	CLASS B Flammable liquids (e.g. paint & petrol)	CLASS C Flammable gases (e.g. butane and methane)	CLASS D Flammable metals (e.g. lithium & potassium)	Electrical Electrical equipment (e.g. computers & generators)	CLASS F Deep fat fryers (e.g. chip pans)	Comments
Water	✓	✗	✗	✗	✗	✗	Do not use on liquid or electric fires
Foam	✓	✓	✗	✗	✗	✗	Not suited to domestic use
Dry Powder	✓	✓	✓	✓	✓	✗	Can be used safely up to 1000 volts
CO2	✗	✓	✗	✗	✓	✗	Safe on both high and low voltage
Wet Chemical	✓	✗	✗	✗	✗	✓	Use on extremely high temperatures

Risk Storage (for example silos) – J2. All these should have a fire detection system in place.

If any of the afore-mentioned buildings are bigger than 5 000m² or higher than four storeys, a voice alarm system (evacuation system) must be included. According to SANS 10139, a fire detection system must be designed, installed and maintained by competent technicians. He said with a fire safety policy and a fire detection system in place, companies will abide by the law and keep lives safe.

Fire protection legislation

Swanepoel said notable laws include the *National Building Regulations and Building Standards Act, 1977 (Act 103 of 1977)* and the *Fire Brigade Services Act, 1987 (Act 99 of 1987)*. Applicable legislation codes of practice include the South African National Standards, noted as SANS 10400-T (concerning fire protection), and SANS 10400-A (concerning general principles and requirements).

SANS 10400-T includes 59 subregulations that must be adhere to. This includes regulations on sufficient and safe escape from buildings, and the provision of compliant fire protection systems. SANS 10400-A describes the process of submissions of fire designs to a local authority (local fire department) for approval.

International legislation, including British and American codes of practise, as well as the implementation of bylaws, must also be considered. It is mandatory to submit all proposed fire protection designs to local authorities for approval. Fire compliance is recognised by a fire clearance certificate after completion and submission of the fire design report. An occupancy certificate is also issued which allows tenancy of the building.

Fire protection designs

Swanepoel mentioned two types of proposed fire designs that can be implemented. This includes being deemed to satisfy rules and rational fire design – 'deemed to satisfy rules' (SANS 10400-T) entails no deviation from the requirements as set out in the standard legislation; 'rational fire design' refers to performance-based fire designs for implementation in the industry.

He explained that in terms of no deviation from SANS 10400-T for fire protection, a fire rated separating element of 60 minutes is required between different tenant occupancies. A brick wall can be constructed to comply with the said requirement.

"With reference to a rational design or performance-based requirements, a different type of fire design can be implemented if the same criteria of the 60-minutes firewall are achieved. The protection of silos is classified under rational fire design for submission and approval by the local authority and fire engineer."

Each fire protection design consists of active and passive protection measures. Passive measures include firewalls, doors, stopping or sealing; and active systems entails smoke control, automatic sprinklers and fire detection systems.

Required firefighting equipment

Swanepoel explained that SANS 10400-T requires fire protection equipment in every occupied building. This includes installation of 4,5kg DCP (dry chemical powder) fire extinguishers in offices, and 9kg DCP extinguishers in parking garages or storage facilities. This is applicable to Class A fires caused by combustibles such as paper and wood.

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In tenant occupancies, where electrical equipment needs to be protected, 5kg CO_2 fire extinguishers need to be installed. Occupied buildings must be equipped with fire hydrants, firehose reels and water supply to be used by the local fire department when they are called to the site.

Figure 2: The different types of fire signage.

Fire protection systems

As required by SANS 10400-T, said Swanepoel, the following fire protection systems need, among others, to be implemented in all buildings: smoke control, automatic sprinklers and fire signage.

Smoke control includes natural smoke ventilation. This can be implemented by installing specific roof ventilators (normally installed in warehouse or storage facilities) or the inclusion of openable windows (in offices) in any area exceeding 500m². Mechanical smoke control (smoke extraction fans) should be applied to areas exceeding 500m².

"All parts of the proposed smoke control system need to be fire resistant to a temperature of 300°C. Smoke fans and ducting should also be installed. In the case of mechanical ventilation, emergency back-up power for a duration of 60 minutes must be supplied."

Automatic sprinkler installations and suppression systems are mandatory in structures exceeding the maximum division areas. "In the case of warehousing and storage, a maximum floor area of 2 500m² is advisable. Should the floor area of grain storage facilities exceed this, the installation of sprinkler systems becomes mandatory. Should the floor area be less than 2 500m² stacking heights needs to follow SANS 10287, which refers to the code of practice for sprinkler installations."

In offices, a maximum floor area of 5 000m² is advisable. In order to omit the installation of an automatic sprinkler system, it is proposed that firewalls or fire curtains are installed. "By doing this, fire rated compartments not exceeding 2 500m² will be achieved, which can be indicated on a fire protection drawing for submission purposes."

The availability of fire signage is vital, especially in case of emergencies. Signs should indicate entrance and exit routes into and out of a burning building, and must also indicate escape routes and the location of firefighting equipment (*Figure 2*). Signage must be designed according to regulations, be of photo luminescent quality and mechanically fixed to the wall.

Know your firefighting companies

Badenhorst said the South African Qualification and Certification Committee (SAQCC) is the regulating body in the industry most involved in providing fire-fighting related training and qualifications. It aims to ensure that service providers are competent through training, qualifications and experience in accordance with SANS 1475 (portable fire extinguishers), SANS 14520 and/or SANS 306 (gas suppression systems), SANS 10139 (smoke detection systems), and the SAQCC-Fire directive by the Department of Employment and Labour.

The Fire Detection Industry Association (FDIA) aims to uplift quality and professionalism within the industry through training and information sharing, and the Automatic Sprinkler Inspection Bureau (ASIB) regulates the industry through the updating of rules. They also list and grade sprinkler installation companies, control the standard of design and installation, inspect new and existing premises, and issue clearance certificates for premises.

The FSIB, a third-party inspectorate for Fire Detection and Alarm Systems and Gas Extinguishing Systems, inspects installations in accordance with defined national standards. They establish compliance, identify deviations and provide guidance for remedial action. He said third-party inspections are needed to ensure that the end users make use of competent suppliers and installers.

Changes in legislation

Van Zyl explained that some amendments were made in the new edition of SANS 10139. The need for a fire detection system, variations from the standard, controlling and indicating equipment, detection zones, communication with fire services, spacing and siting of automatic fire detectors, measures to limit false alarms and inspection and servicing were some of the areas where amendments were made.

These amendments boil down to smoke detectors being a legal requirement in South Africa as per the *National Buildings Regulations and Building Standards Act, 1977 (Act 103 of 1977)* and SANS 10400-T clause 4.31.1. It specifies what building occupancy requires detection equipment.

Individuals who install smoke detection equipment need to be SAQCC registered and must be in possession of a valid SAQCC card. Individuals designing and servicing smoke detection systems must be SAQCC registered. Based on these amendments only a SAQCC registered technician can issue a valid certificate on the level of which the person is registered for.

Design, installation, commission and acceptance certificates are needed for new smoke detection equipment. In terms of scheduled maintenance, a service certificate is required, and a modification certificate is needed when equipment is modified. Battery-operated stand-alone detectors cannot be used on properties requiring smoke detectors.

A premises must be protected by a smoke detection system, and it should be installed and maintained by a SAQCC registered individual. Battery-operated stand-alone detectors are suitable for residential applications. A smoke detection system should be monitored remotely for fire alarms if the fire panel is not monitored 24 hours a day.

For more information, contact Liebrecht Swanepoel on 082 552 6327 or Lswanepoel@LDSFC.co.za, or Ben Badenhorst on 082 4453366 or ben@fire-quip.co.za.

Agbiz Transnet interface agreement commences

By Theo Boshoff, CEO, Agbiz

Road-to-rail is often touted as the next big thing in South African logistics and one can understand why. Studies in other parts of the world has shown that rail freight remains more cost-effective for long-haul transport compared to road transport.

From a socio-economic point of view, freight rail can decongest South Africa's highways situated along the major trade routes. Anyone who has recently travelled the N3 between Johannesburg and eThekwini can attest to this need.

There are some major challenges, however. Rail does not offer the flexibility that road transport can provide. This is especially relevant for short haul in the age of 'just in time' delivery. Likewise, rail does have inherent challenges when it comes to highly perishable products – more so in South Africa where the reliability of our infrastructure is often derailed by cable theft.

Moreover, it is well known that many branch lines and sidings were highly subsidised in the past to promote rural development and that the density of traffic on some of these routes, even when fully operational, may not be profitable in their own right. This does not mean we shouldn't try; it simply means the industry needs to dig a little deeper to determine which routes have a realistic chance of being resuscitated and which should rather be abandoned.

Change through working groups

To facilitate this process, Agbiz has entered into an interface agreement with Transnet. The agreement was signed by the group CEO of Transnet and the CEO of Agbiz. It establishes a clear intention to collaborate and create structures whereby all relevant value chain participants that chose to abide by the interface agreement, can co-operate to find pragmatic solutions.

During the process, three working groups have been established:

- One to enquire into the capacity required to move containers, mainly fruit and wine, through the port and to their export destination.
- Another to focus on the shift from road to rail for dry bulk commodities such as grain where Agbiz Grain is taking the lead.
- A working group to unpack the options available to Transnet and the industry in cases where the other two working groups have identified an opportunity/ opportunities for co-investment or collaboration.

Open data sharing

The interface agreement also contains a non-disclosure agreement whereby the industry can share actual volumes of freight currently moved by road, to create the evidence base required to make decisions regarding joint ventures, branch-line concessions or other forms of investment. While the rhetoric regarding road-to-rail is often used in policy documents and lauded in public forums, one needs to build a business case for specific routes, and this must be based on hard data that is accessible only via the private sector.

All information being shared is done strictly on a one-to-one basis between Transnet and the relevant companies, facilitated by the Agbiz interface agreement and in accordance with the Competition Commission's guideline for the sharing of information between competitors.

To facilitate this process, Agbiz Grain arranged a series of meetings with members based around strategic branch-line clusters. Storage operators is the logical starting point as many maintain sidings within their operating area and will therefore be able to provide an educated opinion regarding the state of the infrastructure. Likewise, data pertaining to the volume and frequency of grain evacuated from silo complexes provides a starting point from where the puzzle of grain flows can be pieced together.

The discussions that have taken place thus far have been very pragmatic. Transnet acknowledges that they cannot service all customers at each siding given their limited locomotives and rolling stock. As such, they want to identify a handful of long-haul routes that account for 80% of their business, and prioritise these by allocating sufficient rolling stock to service them. Where there is potential and Transnet cannot service a route, it should be opened to third parties who may be interested in performing this function.

It is important to note that our efforts are aimed at making a business case for investment and for a public-private partnership (PPP), but does not venture into the commercial space by identifying potential partners who may wish to submit tenders.

Setting up useful PPPs

Finally, the interface agreement will also help to unpack Transnet's joint investment framework. PPPs have become a buzzword of late but very little is said about the detail. Legislation such as the *Public Finance Management Act, 1999 (Act 1 of 1999)*, procurement requirements, or competition law will all have a defining influence on the process and shape that a PPP can take. Under the auspices of the interface agreement, a small group is being put together to unpack the 'terms and conditions' that will accompany any PPP.

In the end, when Transnet and the industry identify areas where PPPs may be feasible, there should be clarity on the options that interested parties can look at to move beyond the rhetoric and actually implement a PPP.

For enquiries, send an email to Theo Boshoff at theo@agbiz.co.za.

Earlier availability of soya bean and sunflower annual crop quality survey

By Dr Erhard Briedenhann, chairperson, Oilseeds Advisory Committee

The soya bean and sunflower crushing industry in South Africa comprises of an estimated 2,6 million ton crush with a value of approximately R2,6 billion per annum. It is a critical source of protein for the animal feed industry and oil for human consumption.

The amount of protein and oil obtained per ton of oilseed influences the crush margin and viability of the oilseed processing industry. It is imperative that this industry has access to as much information as possible relating to the nutrient content of the crop so as to optimise performance as well as anticipate potential challenges in a particular growing season.

The SAGL crop quality survey

The Oilseeds Advisory Committee (OAC) and Oilseeds Trust financially support The Southern African Grain Laboratories (SAGL) to conduct a seasonal commercial crop quality survey for soya beans and sunflower seeds, which is published on their websites at *sagl.co.za/soybeans/reports/* and *sagl.co.za/sunflower/reports/*.

The goal of the crop quality survey is the compilation of a detailed database, accumulating quality data collected over several seasons regarding the national commercial soya bean and sunflower seed crop. This data is essential in assisting the decision-making process of numerous industry role-players. The data reveals general trends, and highlights quality differences in the commercial soya beans and sunflower produced in different production regions.

There have been numerous requests and pressure from role-players in the supply chain asking for information regarding the quality of the crop to be made available as early as possible. Such a step will assist in providing information that could be acted on timeously.

The SAGL started to accommodate the request for earlier information by populating the information on the SAGL website as and when results became available. If these results can be published earlier, it will assist all role-players in the supply chain. Earlier results will facilitate proactive actions to combat some of the ramifications of poor quality.

For example, in 2020/21 the protein content of sunflower seed was so low that oilseed crushers could not provide the feed industry with traditional sunflower oilcake protein levels and a dispensation was required until sunflower oilcake could be registered under the *Fertilisers, Farm Feeds, Seeds and Remedies Act, 1947 (Act 36 of 1947)*.

The nutrient levels of oilseeds during early deliveries as compared to late deliveries, also has a commercial interest and it would be advantageous if the nutrient levels/quality of oilseeds can be tracked during the harvest period.

Soya bean exports

South Africa is rapidly developing into a net exporter of soya beans. According to the National Agricultural Marketing Council's (NAMC) March 2023 supply and demand estimates, we will need to export 350 000 tons of soya beans in the 2023/24 season. This comes with the challenge of creating new export partners and destinations. The quality of soya beans is therefore not only important for the local market, but is critical for exports.

Soya beans are exported based on minimum and maximum nutrient specifications agreed between the buyer and seller. Comprehensive information on the soya bean crop quality supplied as early as possible, would be advantageous. Soya beans are likely to be exported from early in the season; hence, ascertaining the quality of the crop as early as possible would assist greatly with an export programme.

The assistance by the grain silo industry, notably so Agbiz Grain and its members, in obtaining samples in the correct manner and on time is highly appreciated by all role-players in the supply chain. Together, we are able to ensure a sustainable oilseed industry.

For more information, contact Dr Erhard Briedenhann at erhardb@netactive.co.za.

The *Competition Act*: Buyer power regulations

By Annelize Crosby, head of legal intelligence, Agbiz

In February 2020 the minister of trade and industry gazetted so-called buyer power regulations in the *Government Gazette*. This was done in terms of Sections 8(4) and 78 of the *Competition Act, 1998 (Act 89 of 1998)*.

The aim of the regulations is to designate the sectors of dominant firms that are prohibited from requiring or imposing unfair prices or other trading conditions on a supplier, and to set out the relevant factors and benchmarks for determining whether prices and other trading conditions imposed are unfair. This is intended to prevent buyers from exploiting suppliers in the designated class, which may not have the necessary bargaining or negotiating power.

Buyer dominance

Section 8 of the *Competition Act* prohibits the abuse of dominance. A firm is dominant in a market if it has a market share of at least 45% of that market; or if it has at least 35%, but less than 45%, of that market, unless it can show that it does not have market power; or if it has less than 35% of that market but has market power.

The Competition Commission will therefore consider factors such as a particular market's suppliers' dependency on the buyer in question, alternative suppliers available to the buyer, and the nature of the supply negotiations.

Designated sectors

According to Section 8(4) of the *Act* it is prohibited for a dominant firm in a sector designated by the minister to, directly or indirectly, require from or impose on a supplier, which is a small and medium business or a firm controlled or owned by historically disadvantaged persons, unfair prices or other trading conditions.

Moreover, it is prohibited for a dominant firm in a sector designated by the minister to avoid purchasing, or refuse to purchase, goods or services from a supplier that is a small and medium business, or a firm controlled or owned by historically disadvantaged persons in order to circumvent the aforementioned.

The designated sectors for this purpose include agro-processing, groceries, wholesale and retail, eCommerce and online services.

A 'designated class of purchaser' means a small or medium-sized business as defined in Section 1 of the *Act*. *Government Gazette 42578* of 12 July 2019 sets out criteria in terms of sector-specific employment and turnover thresholds. Both thresholds (employment and annual turnover) have to be met by a particular firm in order to qualify in a particular category.

The *Gazette* in question provides as follows: A medium-sized business means a separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy mentioned in

Table 1: Size and turnover thresholds pertaining to business entities.

Column 1	Column 2	Column 3	Column 4
Sectors or subsectors in accordance with the standard industrial classification	**Size or class of business**	**Total full-time equivalent of paid employees**	**Total annual turnover (Rand)**
Agriculture	Medium Small Micro	51 to 250 11 to 50 0 to 10	≤ 35 million ≤ 17 million ≤ 7 million

column 1 of the schedule; and satisfying the applicable criteria for a medium-sized business as mentioned in columns 3 and 4 of the schedule to this notice.

Unfair trading practices

According to an article titled "Unfair pricing and trading conditions imposed by dominant firms – do the new *Buyer Power Guidelines* provide sufficient clarity in this novel area of the law?" by attorneys Cliffe, Dekker and Hofmeyr, the commission will consider a trading condition to be unfair if it unreasonably transfers risks and/or costs onto a firm in the designated class of suppliers; if it is one-sided, onerous and/or disproportionate to the stated objective; or if it bears no reasonable relation to the objective of the supply agreement.

The Commission will assess these factors based on the specific sector and this assessment will be informed by the types of practices identified as unfair trading practices in other jurisdictions.

In relation to the agro-processing and grocery wholesale and retail sectors, the Commission considers the following to be *prima facie* unfair:

- Payment terms that are longer than 30 days.
- Cancellation of orders of perishables at short notice.
- Unilateral changes to the terms of a supply agreement such as delivery terms, volume of supply, quality standards, payment terms and prices.
- The buyer requiring the supplier to make payments to the buyer where those payments are not related to the sale of products of the supplier.
- Payments for deterioration or loss where ownership has passed to the buyer and where the loss occurred on the buyer's premises.
- Refusals by the buyer to conclude a written supply agreement.
- The supplier's trade secrets are unlawfully acquired, used or disclosed by the buyer.
- The buyer threatens to or retaliates commercially against the supplier, if the supplier elected to exercise its contractual or legal rights.
- Compensation payments to the buyer from the supplier for investigating customer complaints where there is no negligence on the part of the supplier.

An action by a dominant firm, as the seller of goods or services, is prohibited price discrimination if it is likely to have the effect of substantially preventing or lessening competition; or impeding the ability of small and medium businesses or firms controlled or owned by historically disadvantaged persons, to participate effectively.

Penalties

Penalties for the contravention of these provisions are high – for a first-time offence it is up to 10% of the dominant firm's annual turnover, and up to 25% of the dominant firm's annual turnover for a repeat offence. Complaints can be lodged anonymously.

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Points to ponder

By Jannie de Villiers

Three days – but God

A lot can happen in three days. Spiritually, the best known is probably the three days of Jesus's crucifixion and resurrection. Much has been written regarding the first day and the details surrounding the crucifixion. However, very little has been written about the second day and one can only speculate about what happened on that dark cold day in the grave. Then follows the third day: the resurrection and His appearances to His followers!

I want to share my thoughts regarding another three days that I came across in my search to try and understand the difficult times we are currently going through as a country. These three days are recorded in Exodus 15, verse 22 to 26. It relates to when the Israelites were moving between die Red Sea and Marah (bitter waters).

The Red Sea was a fearful place, but God showed His character and love for them through a miracle. The people were singing, and the women were dancing with tambourines. A very happy group of people. They all probably thought this move through the desert to the promised land would be a walk in the park. That was day one.

Then they entered the desert of Shur for three days. I can imagine them still humming the songs they sang on the banks of the Red Sea, sharing their memories with each other while walking under the beating sun. On day two it was probably a bit quieter. The humming faded and the people and animals began to suffer in the dry hot sands of the desert. It became a struggle to put one foot in front of the other. The weak among them started complaining as their water ran low.

On day three they arrived at Marah, a place with a lot of water, but undrinkable as it was bitter. This was one day too many. The people were grumbling at Moses. Reaching the Red Sea, and in fear of the approaching Egyptian army, they cried out to God to save them. After three days in the desert, they turned all their attention and complaints to their leader, Moses (not God). What struck me the most here was how quickly the mood of a nation can change in three days. From a high at the Red Sea to grumbling at Marah. What happened on day two that changed it all? Again, like the crucifixion, very little has been said about day two.

Change your perspective

So why did God take them into the desert? Why was the water bitter? Why is South Africa, after the rainbow miracle of 1994, now in the dark and dry desert of 2023? I don't think I have the answers to these questions, but I keep on searching the Scriptures and asking the Spirit to try and understand God better.

What I've learned thus far is that God never uses the desert to punish people. Hosea 2, verses 14 and 15 reads: "Therefore I am now going to allure her; I will lead her to the desert and speak tenderly to her. There I will give her back her vineyards, and I will make her valley of Achor a door of hope. There she will sing as in the days of her youth, as in the day she came out of Egypt."

This is not the language and tone of somebody that is angry and in a punishing mood. He promises Israel a new future along with hope and songs of joy. The water of Marah was not bitter to punish the people; it was bitter to draw them to God – to be dependent on Him.

Today in South Africa, the mood can easily swing from joy and singing to grumbling. It is almost if Eskom or politicians determine our mood. My advice is to pay attention to what God is saying to you while we are in the desert. If your water is bitter, don't grumble to the leaders and those around you. Turn to God and pay attention to His soft and tender voice that calls for your attention. He still holds the future.

He used the second day, a dark and bitter place, to conquer sin and death so that we can forever enjoy victory. Considering what He has done for us, is it not time to turn your grumbling to praise and focus on the future with Him instead of wasting your energy grumbling about power, ports and roads. We must do what we can to fix it, but first fix your relationship with Him to get perspective.

For enquiries, send an email to Jannie de Villiers at jannie@devilliersfamily.co.za

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