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PULA
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GROWING FOOD • PEOPLE • PROSPERITY

GRAIN SA MAGAZINE FOR DEVELOPING FARMERS

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CONTENTS

A WORD FROM...

Jurie Mentz

THE RECENT INCREASE IN FUEL PRICES AND GENERAL INCREASE IN MOST INPUT COSTS IS A MATTER OF GREAT CONCERN FOR OUR FARMERS. FARMERS HAVE TO ABSORB THESE COSTS WITHOUT KNOWING WHAT THEY WILL GET FOR THEIR PRODUCTS SIX OR EIGHT MONTHS LATER. THESE RISING COSTS ARE PUTTING FARMERS UNDER SEVERE STRESS.

If someone can be calm under stress, he is referred to as 'unflappable'. The American actress, Goldie Hawn, said that the ability to remain calm and focused under stressful situations is central to making positive decisions.

Successful farming is an elimination of risks. The farmer must always try to be ahead of the problem and not react because of it. If he reacts because of a problem, he will always be chasing problems.

In my opinion it is important to consolidate and plant cash crops on your best fields in uncertain times and plant pastures for your livestock on less productive fields. A farmer needs to optimise what he has available. In other words, he needs to optimise his farm and operations. Instead of planting everything, concentrate on achieving better yields.

The four most important factors that influence crop yields are soil fertility, climate, the availability of water, and diseases. To meet these challenges, we need to think long and hard about our production plan and how we can better our plan. The whole farm plan needs to be good.

We seriously need to think outside the box. We as farmers need to produce more from less if we want to survive. One certain way to improve our available fields is to take regular soil samples, apply lime where needed and correct acidity and other deficiencies. Another way will be to make use of crop rotations as they have proved to be better than monoculture in a conventional or no-till programme. It is a common fact that maize after soybeans will lead to a 1 ton per hectare yield increase. ■

FARMER DEVELOPMENT is key for growth

IT IS ALWAYS HELPFUL TO KNOW WHAT AN ORGANISATION'S LEADERSHIP IS THINKING. JENNY MATHEWS SAT DOWN WITH DEREK MATHEWS FOR A CHAT AFTER HE WAS RE-ELECTED AS GRAIN SA'S CHAIRPERSON DURING THE 2022 CONGRESS IN MARCH.

Derek feels any industry should have an ongoing process where it welcomes and nurtures new entrants into the business. 'There are always dynamic developments and new knowledge systems that must be transferred to farmers. It is all about delivering the required results through capacitated farmers. We are passionate about growing grain farmers towards commercial success. Our vision is for building a competent sector which has skilled commercial farmers, who are sustainably contributing to national food security,' he says.

GRAIN PRODUCTION

When asked how much of the grain crop is produced by black farmers, Derek answered: 'As an organisation committed to transformation in the agricultural sector, we have been working in farmer development for over 22 years now. We have met, encouraged, supported, mentored, cried and laughed with so many amazing people. They are hardworking farmers from all over the country.

'We have seen farmland in the hands of a variety of black farmers – from the small-farmer subsistence level that really matters to household food security, to the much larger and still expanding commercial enterprises of new era commercial farmers who are successful businessmen. At Grain SA we believe that everyone who wishes to turn his hand to grain farming deserves a fighting chance – and we can help with that.

'It is increasingly more important that we see results where we put our funding. The question our leadership is facing more and more, is not how many farmers we are helping but rather how much of the annual crop is being produced by black farmers.'

> *It is essential that the transformation funds spent by Grain SA must increase the percentage of the crop that is produced by black farmers.*

It is not always an easy question to answer how many of the farmers that Grain SA has worked with are now independent commercial farmers, as progress is impacted by many things. 'A farmer can do everything right, but in a drought season the crop will always be negatively affected and profits will plummet.'

To Derek it is essential that the transformation funds spent by Grain SA must increase the percentage of the crop that is produced by black farmers. It is widely recognised that even when there is support in the form of recapitalisation, mentorship or other support to new era farmers, the playing fields are not automatically evened out. The bottom line is that it must always make financial sense to grow grains.

The profitability in the industry should be corrected and this can only be done when farmers and the different role-players, which include input suppliers and the state, work together.

COLLABORATION

Grain SA is the voice of the grain farmer. To Derek it is heartening when Grain SA is approached by policymakers and role-players in the sector for collaboration. 'They turn to us for opinions, insights and advice as well as for accurate industry data and statistics. We have the capacity to do development, to advise and to lobby around the economics of farming because of the expertise we have.'

Why should other stakeholders channel their funds through the Grain SA Farmer Development Programme?

'One would search hard to find another team like the one we have,' Derek says about the passionate and dedicated Farmer Development team, of whom he is very proud. He is also proud of Grain SA's capacity to manage diverse projects with excellence in implementation, supported by good financial management – which time and again has presented the annual congress with consistent unqualified audits. He believes that Grain SA has much to offer the sector – both the experience of the team and because of the footprint that Grain SA has in all the grain-growing regions of the country.

Derek highlighted the capacity of the Grain SA Farmer Development Programme to adapt a project according to any specific partner's objectives and vision. 'There is fluidity in the way we design projects for different groups of farmers. This enables us to implement projects such as the Beyond Abundance Project for small-scale farmers, but also equally manage large sums of money targeted at addressing the unique needs of a large-scale farming operation.'

Grain SA chairperson, Derek Mathews.

Grain SA has been working in farmer development for over 22 years and has a passionate and dedicated team who manages diverse projects with excellence in implementation.

GRAIN SA

Highlight some areas where Grain SA already has made a difference in the farmers' pockets.

'Grain SA's involvement and influence in discussions that are related, for example, to the soybean industry, the diesel rebate, grading regulations and Leaf services. We were proactive in the drive for a turnaround strategy in the wheat industry. There have been some dramatic and significant improvements in the farmer's pocket because of our interventions. The benefit is a massive return on a farmer's investment in relation to the small levy they pay to Grain SA.'

What is your dream and vision for the future of the programme?

'In five years', we should have more fully commercial black farmer members. Those are farmers who are farming on their own, fully independent of grants. We also need to bring more of those who are already farming successfully into the fold by educating more farmers about the important role that Grain SA plays in the sector. We do significant work that affects the farmer's pocket, regardless of whether he or she is a member of Grain SA. We'd love for more farmers to join us, commit their levies to furthering the grain farmer's interests and make our voices heard,' Derek elaborates about Grain SA's vision.

'At the same time, we would love to ignite a fire in the hearts of young farmers. We would love to meet them and include them in our organisation. Any industry that has no succession plan in place, has a limited lifespan.'

The author left the meeting inspired by Derek's passion for the grain industry and his enthusiasm for the task at hand and encouraged by his commitment to the Farmer Development Programme. ■

JENNY MATHEWS,
MANAGEMENT AND DEVELOPMENT
SPECIALIST AND EDUCATOR

WORDS OF WISDOM

A nation that cares for its agriculture, cares for its future.

~ SP LE ROUX
SA minister of agriculture (1948 - 1958)

Correct soil cultivation can help MANAGE COSTS

SOIL CULTIVATION REMAINS ONE OF THE PRIMARY COST ITEMS IN CROP FARMING, WITH DIESEL BEING ONE OF THE HIGHEST COST CONTRIBUTORS. WHEN COMBINED, DIESEL COSTS, TRACTOR REPAIRS AND MAINTENANCE CONTRIBUTE ABOUT 20% OF THE TOTAL DIRECTLY ALLOCATABLE VARIABLE COST OF GRAIN PRODUCTION. THIS MAKES IT IMPORTANT TO RE-EVALUATE CULTIVATION PRACTICES.

Table 1 shows the diesel consumption related to various soil cultivation systems. This information makes one wonder if diesel usage can be reduced. The only way this can be done is to make sure that cultivation is done correctly and that the correct working depth is found and maintained in order to solve this problem.

WHY IS SOIL CULTIVATED?

- Soil is cultivated to combat weeds, pests and diseases, to incorporate crop residues and chemicals and to create a favourable seedbed for seedling emergence and growth.
- Soil cultivation can increase water infiltration.
- It creates a favourable topsoil structure for root development, air movement and creates a temporary structure to combat wind erosion.
- During deep ripping operations, it creates a favourable subsoil structure for deeper root penetration such as breaking up soil compaction.
- Soil is also sometimes cultivated to control wind erosion.

BEFORE CULTIVATION

It make sense to decide what cultivation action to implement and to set the goals of each action in advance. One of the main objectives of primary tillage is to remove compaction layers and to break up the soil. To do this meaningfully, it is important to determine if there really are compaction layers and if so, at what depth they occur. This will determine how deep to work.

A penetrometer is the best tool to measure compaction and to decide how deep to work, but a soil profile pit can also be examined to determine the thickness of compaction. However, it is a difficult to determine with reasonable accuracy the bottom of the compacted zone and therefore the effective working depth. The deeper the implement is working, the higher the diesel consumption will be. It therefore makes sense to work only as deep as needed. A rule of thumb to apply is the higher the clay, the shallower one can work and vice versa.

The weed density and their size will surely determine the method of cultivation. The smaller the weed, the easier it will perish. If the weed is large and you want to use a tiller, make sure that the correct shares are used and that they cut or kill the weed. If the weed must be killed, a disc that cuts the field or a plough will work better even though it is more costly. Timing is everything. If weeds grow too big it will be more costly to eradicate.

To manage the cost of cultivation, the moisture content of the topsoil is important. If the soil is too dry the soil will break up into large clods and the tractor will use extra diesel. An extra action will also be needed to break the clods. Working too dry soil will cause increased wear on both the tractor and the implement. If on the other hand the soil is too wet, it will also create problems. If producers want to rip soil that is too wet, the ripper will not break up the soil as anticipated and will create portions in the soil where it has not been loosened properly.

Correct soil content can be determined by digging the soil with a spade. If the soil digs comfortably, the chances are good that the land can be cultivated. A hard dry crust thicker than 10 cm is about the limit, after which the operation should rather be postponed until after a rainy day.

Sandy soil can be cultivated quicker after rain than loamy soil. Normally it can be worked two days after good rain, but for loamy soil rather wait three days. Clay soil's window period for cultivation is small, because it stays too wet for a long time and then dries too quickly again. Timing is everything.

To do soil analysis, a soil profile pit has to be dug.

1 ***Diesel consumption of various soil cultivation systems.***

Action	Diesel used (ℓ/ha) per action	No-till system	Reduced cultivation with chisel plough system	Reduced cultivation with deep dissing twice system	Ploughing system
Chisel or deep disc	23,93	0	1	1	0
Chisel	12,77	0	1	0	0
Disc	17,50	0	0	1	2
Plough	20,50	0	0	0	1
Plant and spray	13,25	1 (25,15)	1	1	1
Top dressing	7,30	1	1	1	1
Weed control	4,98	1	0	0	0
Pest control	4,98	1	1	1	1
Total diesel used per system		42,41	62,23	66,96	81,03

Source: ARC's 2010 Maize Information Guide

SOIL CULTIVATION

During cultivation, the implements' working depth must be checked on a regular basis to make sure that the implement is working at the target depth. In the case of ploughing, it can be easily checked in the hollow furrow. With chisel ploughing, the working depth is usually overestimated and needs to be checked with a depth measuring stick.

The rippers' working depth must be measured in the furrow that is created by the tines and shear of the implement. Remember to first level the soil evenly on the measuring point, step on it slightly and then measure it against the unworked soil. With cultivation the soil is lifted and can create a false impression. Also check the efficiency of the implement by measuring the compaction between the tines.

It often happens that tine implements only pull furrows into the soil and does not break the whole profile. This happens because the tines are spaced too wide or the soil is too wet. A rule of thumb to apply is to space the tines at 70% of the intended working depth. This significantly increases the efficiency of the operation.

Check the shares for wear and tear. The ripper and chisel plough shares wear out and get shorter over time. This causes the implement to work shallower over time because normally a depth control wheel is used on tine implements.

In a cultivation system where there is no crop residues on the surface, it can often lead to surface crusting throughout the season. Crusting again leads to poor water infiltration and eventually water erosion. Runoff water is also lost to plant production and crop yields is lower. Shallow hoeing is effective in breaking up such surface crusts.

An effective way to manage costs is to implement a controlled traffic system. This consist of the tractors staying on the same tracks throughout the production year. Soil compaction is minimised and the fuel consumption of the tractors will be lower.

There are a number of aspects that need to be addressed. It is therefore important to consult an expert in this aspect. ■

PIETMAN BOTHA, INDEPENDENT AGRICULTURAL CONSULTANT

Grain SA Congress 2022

Responsibility in change

IT HAS BEEN MORE THAN TWO YEARS SINCE LOCKDOWN WAS IMPLEMENTED. IN THIS TIME PRODUCERS HAVE NOT HAD MUCH INTERACTION WITH OTHER REGIONS. THE NEWS THAT THE 2022 GRAIN SA CONGRESS COULD BE ATTENDED PHYSICALLY AT NAMPO PARK ON 2 AND 3 MARCH, WAS THEREFORE MET WITH GREAT EXCITEMENT.

Members, government officials, role-players, academics, partners and stakeholders travelled from far and wide to NAMPO Park near Bothaville to discuss 'Responsibility in change,' the theme of this year's Congress. A live congressional broadcast on YouTube was also made available to interested parties.

New era producers attended on behalf of their regions (regions 28 to 33). They expressed what an honour it was to represent their regions. They found the experience informative, and it was a progressive one for most as they participated more in the proceedings. For these farmers the highlight was being able to interact with other regions and exchange experiences and ideas.

One of Grain SA's main focal points is the sustainability of producers and the discussions and concerns kept returning to one problem, namely input costs, which also determined the course of the agenda for Congress. The programme included two panel discussions to give producers more opportunity for discussion and interaction.

- The first panel discussion focused on rising input costs and the need for innovation and new technology to compete internationally. It was led by the CEO, Dr Pieter Taljaard.
- The second panel discussion, facilitated by Corné Louw, Applied Economics and Membership Services lead at Grain SA, focused on research, development and innovation of fertilisers.

Farmers enjoyed being part of the proceedings and being part of the decision-making processes. They felt that the theme was in line with their current problem of increasing input costs. Listening to the different speakers and panellists helped them to understand that they are not alone in this problem and that different industry players are working on plans to help mitigate some of the constraints. To see that Grain SA is at the centre of these different conversations, just instilled new confidence in the organisation.

BREAKAWAY SESSIONS

All producers attended separate breakaway sessions, where a variety of matters regarding different commodities – maize, winter cereals, sunflower/sorghum, as well as soybean and groundnut – were discussed. Here are a few highlights from these sessions:

Maize

- Feedback was given on matters from the previous minutes that were settled.
- Calculations regarding the profitability of maize production under current conditions must be thoroughly communicated to producers and the government.
- Research on seed and seed quality as well as the grading of seed sizes.

Participants in panel 1 were Dr Pieter Taljaard, CEO of Grain SA; Tony Esmeraldo from Corteva Agriscience; Frank Rothweiler from Bayer; Jozeph du Plessis, executive member for Region 2 and Dipepeneneng Serage, chief director of the Department of Agriculture, Land Reform and Rural Development (DALRRD).

Corne Louw with the panel which consisted of Johannes Louw from Sasol; Ncumisa Mxhalisa from the Department of Trade, Industry and Competition; Kgampi Bapela from the Industrial Development Corporation of South Africa; Louis Strydom from Omnia Fertiliser and André Kirsten, executive member of Grain SA.

Executive members Ramodisa Monaisa and Jeremiah Mathebula with Mussa Thomas Sibiya from Region 29 who was chosen as the best speaker from the floor.

The first day of Congress was attended by 469 delegates and guests.

Paulus Mosia, the 2018 Grain SA/Bayer Potential Commercial Producer of the Year, and Israel Motlhabane, previous executive member of Region 31, regard the congress as one of the highlights on the agricultural calendar.

Maseli Letuka, the newly elected executive member for Region 31.

Jerry Mthombothi, regional development manager from the Mbombela office, carries the gift bags to attendees from his region.

Dr Sandile Ngcamphalala, Farmer Development lead, with two representatives of the Farmer Development Programme's partners – Calvin Mojapelo from Standard Bank, and Thapelo Maboko from BASF.

Soybeans

- It was recommended that the current methodology of the breeding and technology levy be continued for the next two years. A statutory application for 1,2% of the soybean price is supported.
- Chris Sturgess of the JSE provided feedback on a new technical committee set up to examine the proposed model for the location differential.
- Soybean export markets currently have greater potential than maize. Because more hectares are planted to export the same amount of soybeans as maize, there are advantages that the infrastructure can handle exports better and that it can, on the other hand, take pressure off maize surplus production.

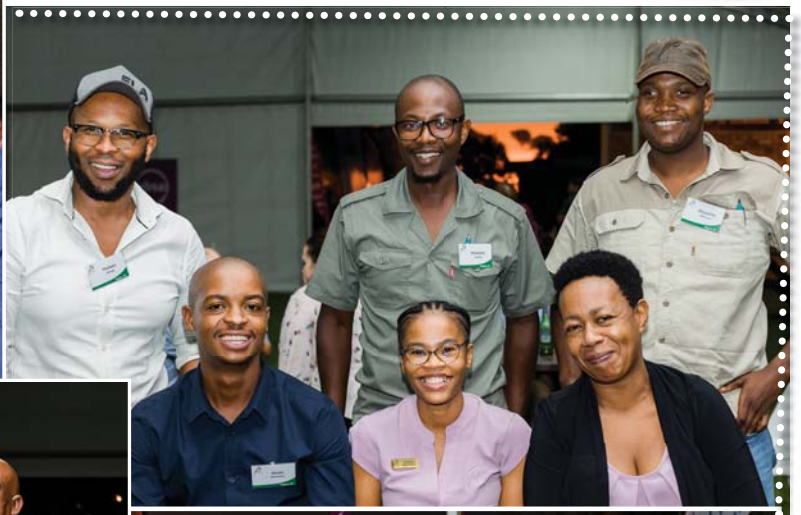
Sunflower and sorghum

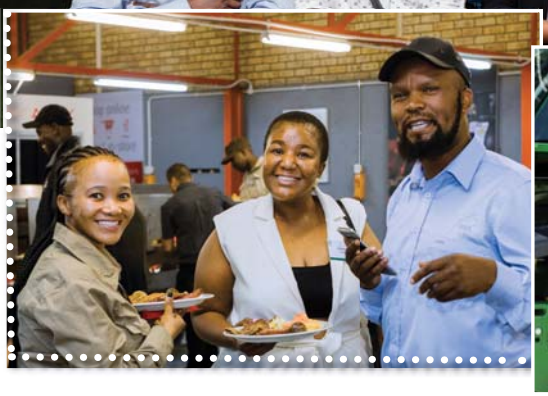
- Great concern about Sclerotinia prevails in the sunflower industry, especially in the current wet year. Members were warned to be vigilant and take precautions.
- Sunflower plantings are rising and it seems as if a flowering period is ahead.
- There is great excitement about sorghum. The value chain study has been completed and it appears that there is a lot of potential and opportunities.
- Export markets are being explored and efforts are made to balance import and export prices.

Groundnuts

- The establishment of an import tariff on peanut butter: The application has been submitted and must be signed by the Minister.
- Producers start planting soybeans because it carries less risk and is easier to finance which leads to a decrease in groundnut production. If there are not enough groundnuts, more needs to be imported and local producers are paid less.
- A positive aspect is a private company that came on board with new cultivars.

Grain SA Congress 2022...





After the first day's proceedings, delegates could relax and enjoy each other's company and some delicious food.

Winter cereals

- Concerns about the increase in the price of bread were tabled.
- Grain SA has allocated funds for benefit programmes and further funding has been obtained from the government.
- Members were asked to participate in Grain SA's input price surveys.
- Alternative crops such as lupins are currently receiving attention but work still needs to be done to expand opportunities.

LEADERSHIP

Derek Mathews (chairperson) and vice chairperson Richard Krige were re-elected. They are assisted by the newly elected second chairperson, Jeremiah Mathebula. Producers believe their regional leaders will serve their best interests on different platforms and that they will have a stronger voice going forward. When producers were asked what they would like to do better, they expressed that they wish to open better communication channels amongst themselves. ■

IKAGENG MALULEKE, AGRICULTURAL ECONOMIST AT GRAIN SA

Develop a marketing plan for your farm

MARKETING INVOLVES MORE THAN JUST SALES. IT ALSO INCLUDES FINANCIAL GOALS, RISK DETERMINATION, INVESTIGATING DIFFERENT PRICE AND DELIVERY STRATEGIES AND MARKETING OPPORTUNITIES. THIS ARTICLE IS A FOLLOW-UP ARTICLE ON THE ONE TITLED, *A PRODUCER'S MARKETING PLAN*, WHICH WAS PUBLISHED IN MAY 2022, FOCUSING ON THE BASIC PRINCIPLES OF A MARKETING PLAN. THE PURPOSE OF THIS ARTICLE IS TO HELP A FARMER TO DEVELOP A MARKETING PLAN.

GOAL OF A MARKETING PLAN

Primarily the goal of a marketing plan is for a farmer to cover production costs and realise the targeted return on investment. The first step is to decide on instruments that will best suit their enterprise. A farmer needs to select instruments and strategies that will work best for them, given their financial goals and cash flow needs. The next step is to determine how many tons must be sold when the commodity trades at the targeted price level. Every time a farmer waits for a higher price, there is also the possibility of a lower price being realised.

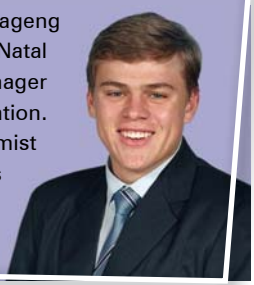
The most important step is a regular reassessment of the marketing plan as fundamentals change. Due to the rapid change in market conditions, if a farmer does not change their marketing plan accordingly this could result in over-optimistic or over-pessimistic circumstances that could lead to inappropriate, emotional marketing decisions. Some of the biggest factors which have an impact on price are the weather, which could lead to considerable changes to the farmer's expected crop or even when their financial position changes dramatically.

The hard part about a marketing plan is sticking to it when the price is at the targeted level. Without self-discipline, farmers can be caught up in the hype of higher prices in the future and eventually sell their commodity below break-even price when things don't go as expected.

Try to avoid the following:

- **Having too much confidence in pre-estimates of prices**. Pre-estimates should not be considered as fact, but rather predictions made from available information at the time. As variables that are considered in the predictions change, the pre-estimates of prices will also change.
- **Trying to sell commodities at the highest price**. Producers miss price opportunities, by trying to sell at the highest price. A better goal is to try and sell their grain at the top third of the season's price band.
- **Unintentionally excluding costs when calculating the net farm gate price**. Farmers need to be aware of all costs that are deductible in the chosen strategy. They also need to calculate the total carrying cost if they decide to store their crop.
- **Making all or nothing marketing decisions**. Being overly confident could lead to none of the expected crop being sold. Farmers need to spread the marketing decisions throughout the production season by taking targeted price levels and fundamental factors into account.
- **Becoming too emotional**. Farmers need to remain objective, regardless of the direction the prices are taking.
- **Allowing personality type to influence decisions**. Farmers who have an optimistic outlook on life, tend to be overly optimistic that prices will go up, while those who are pessimistic, tend to think the price will go lower. Farmers need to consider their personality types and try to compensate for that when making decisions.
- **Communication**. It is important for farmers to inform their marketers and family about their marketing plans, to eliminate misunderstandings and tension. Communicating can also help to hold farmers accountable when the targeted price level has been reached, which could prevent their marketing decisions from turning into emotional decisions.

Farmers should note that marketing success is measured in profit per hectare and not price per ton. ■



This was the last contribution by Ikageng Maluleke who moved to KwaZulu-Natal where she now works as an area manager for the SA Cane Growers Association. Christiaan Vercueil, an intern economist at Grain SA, will be filling Ikageng's shoes on the *Pula Imvula* team.
– EDITOR

IKAGENG MALULEKE, AGRICULTURAL ECONOMIST AT GRAIN SA

A new VISION for FMD

A SPECIAL INFORMATION SESSION ON A NEW VISION FOR FOOT-AND-MOUTH DISEASE IN SOUTH AFRICA WAS HELD ON 5 APRIL 2022 UNDER THE AUSPICES OF THE RED MEAT AND LIVESTOCK PRIMARY CLUSTER.

The event held at NAMPO Park on the outskirts of Bothaville was attended by almost 315 individuals and it is a clear indication that FMD is a priority to all role-players. The objective of the organisers – the Red Meat Producers' Organisation (RPO), SA Feedlot Association, National Emergent Red Meat Producers' Organisation (NERPO) and the Red Meat Abattoir Association – was to get input from industry role-players, government, veterinary practitioners, feedlot owners, auctioneers and farmers on a way forward with regards to foot and mouth disease.

Engagement and discussions were constructive and it was resolved that a document be compiled by the Red Meat Industry Services (RMIS) and the National Animal Health Forum within the following 72 hours. Input by a representative from the OIE (International Organisation for Animal Health) would also be made.

AUCTIONS, MOVEMENT AND TRACEABILITY

All outbreaks of FMD originate from the controlled endemic area of Limpopo. Although there was a proposal that a ban be placed on auctions in the province, Dr Mpho Maja, director of Animal Health categorically stated that this is not a viable solution and not advisable, as it will have a huge influence on the livestock industry. The movement of animals, however, should be kept to a minimum and only out of necessity. The powers given to veterinary services in terms of Act 35, should be enforced in the transportation of suspected animals, as well as the outbreak of any state-controlled disease.

> *Traceability has now reached a point of being non-negotiable.*

The meeting condemned the contravention of the Animal Health Act and pleaded with the National Department of Animal Health to act with the full might of the law against those individuals illegally transporting animals out of the controlled area, and/or the selling of these animals. The industry is adamant that the responsibility towards securing a safe livestock industry is shared between government and livestock owners and livestock owners should as a matter of urgency self-regulate.

Traceability has now reached a point of being non-negotiable. Livestock owners are encouraged to adhere to basic herd health protocols and when purchasing new animals, the health status of the animals should be determined. If animal health is not guaranteed, animals must be kept in quarantine and separate from other animals for the prescribed periods as stated by legislation.

Another proposal was tabled of a foot-and-mouth disease free status with vaccination and that feedlots should also vaccinate. Dr Maja opposed the proposal of haphazard vaccination and said it will have a huge influence on export opportunities. Faster decision-making is crucial and private/public partnerships (PPP's) are of utmost importance. ■

PRESS RELEASE BY THE RED MEAT AND LIVESTOCK PRIMARY CLUSTER

Grain research is on their agenda

THE GRAIN RESEARCH AND POLICY DEPARTEMENT OF GRAIN SA IS STRUCTURED TO ESCALATE GRAIN SA'S ACTIVE ROLE IN THE CO-ORDINATION OF NEED-DRIVEN GRAIN RESEARCH. PARTNERSHIPS AND STAKEHOLDERS WERE IDENTIFIED TO WORK WITH THE GRAIN SA TEAM FOR A FOOD SECURE FUTURE. ITS FOCUS AREAS ARE CROP IMPROVEMENT, CROP PROTECTION, CLIMATE CHANGE AND CONSERVATION AGRICULTURE.

Here are some of the team's recent activities:

- The team met with researchers from the ARC and the Universities of the Free State and Pretoria to discuss key outcomes and the way forward for a project which forms part of the Climate Resilience Consortium. This included a site visit of the field trial and phenotyping platform at the ARC-Grain Crops. This project aims to investigate late maize plantings in South Africa and its association with late rain, and other extreme weather events.
- The National Grain Research Programme (NGRP) conducted pest and disease surveys in the Eastern Cape on maize and soybean in February and March 2022. These surveys aim to build on existing research within the NGRP and determine which pests and diseases will require priority in research, with the intention of supporting the South African grain and oilseed industry through research. ■

Agricultural equipment placed in its own box

FOLLOWING THE 2021 RIOTS, THE SOUTH AFRICAN SPECIAL RISK INSURANCE ASSOCIATION (SASRIA) REVIEWED THE PREMIUMS OF CERTAIN SECTORS, WHICH RESULTED IN A DRAMATIC INCREASE OVER THE PAST YEAR.

According to Circular 510 of 14 September 2021 on the SASRIA website, agricultural vehicles (tractors, harvesters, sprayers, planters and heavy transport trucks) fell under the M8 Heavy Motor Vehicle category. Tariffs on these vehicles have been proposed to increase by 1 736% from R326,8 to R6 000,98 for an insured amount of R2 000 000. This original proposal by SASRIA would increase the rate by 0,016% to 0,35% – a further burden on the agricultural sector which is still under pressure.

Grain SA took the lead and, together with other agricultural role-players, started negotiations with SASRIA so as not to classify agricultural equipment similar to trucks. After successful discussions, SASRIA agreed to classify agricultural implements as special agricultural equipment with a premium much lower than that under which trucks are insured. The new rate is set at 0,06% effective 1 August 2022.

'Grain SA is delighted with SASRIA's continued commitment to ensure that risks are priced correctly and with the revaluation of the risk rate for vehicles in the agricultural sector. As agricultural equipment very rarely leaves the farm physically, it did not make sense to categorise farm equipment under the M8 category. SASRIA has further committed to effectively backdate the rate to 1 February 2022 on new or renewed policies from that date,' said Corné Louw, Applied Economics and Membership Services lead at Grain SA. ■

GRAIN SA PRESS RELEASE

The BETTER you know your soil, the BIGGER your yield will be

REGULAR SOIL ANALYSIS IS AN EXTREMELY IMPORTANT FACTOR IN CROP CULTIVATION AND FORMS THE BASIS OF SOIL CHEMICAL MANAGEMENT. THE ULTIMATE GOAL IS TO BRING THE SOIL STATUS INTO BALANCE TO ENSURE OPTIMUM YIELDS. IN THIS ARTICLE, EXPERTS IN THE FIELD OF SOIL HEALTH GIVE THEIR OPINIONS ON THE IMPORTANCE OF SOIL STATUS AND THE IMPACT OF THIS ON YIELD.

WHAT DOES GOOD SOIL STATUS INVOLVE?

According to David Taverna-Turisan, manager of the Department for Nutriology® Development and Innovation at Omnia, optimum soil health is achieved as soon as all the components of the system are in balance. 'This provides the soil with a high adaptability or resistance to unfavourable climatic conditions and enables it to sustain high yields in varying climatic conditions.'

He explains that soil health involves physical, chemical and biological aspects. 'The health status of soil can be changed over time by natural events or human disturbance and these shifts in status can ultimately have an effect on sustainability.

'Unsustainable agricultural practices like soil salination, acidification, compaction, crusting, overcropping, monoculture cultivation and the disturbance of the nutrient cycle have a negative effect on soil health. Global trends show an ongoing 20% decrease in productivity of all cultivated soil because of soil deterioration.'

HOW CAN SOIL HEALTH BE MANAGED?

David maintains that the improvement of soil health requires an integrated best practice approach. It can be done through the practical application of scientific knowledge and innovative solutions like precision sampling, remote sensing, plant tissue analysis and conservation tillage.

'Integrated soil fertility management should focus on continuously refining local practices in such a way that the storage of nutrients and the ability of the roots to access them improves. The best practices for the application of fertiliser can be summarised by the 4R approach: **R**ight product, **R**ight application level, **R**ight time, **R**ight place.

- Area-specific nutritional management, whether based on the nutritional status of the soil or the plant, ensures that fertiliser application is managed according to what the plant really needs.
- Preseason sampling according to a grid pattern is an efficient aid to identify and quantify chemical or physical deficiencies/imbalances in fields.
- Historical yield data over several growing seasons can be normalised to summarise different production areas into management zones.
- Soil analyses, plant tissue analyses and remote sensing during the season can be used to determine the biological status of the soil as well as the nutrient content and health status of the plant. They can be used to fine-tune top fertiliser practices.

'By managing these management zones independently, producers can improve their production efficiency (like nutrient and water-use efficiency),' David adds.

According to Dr Chris Schmidt, senior agriculturist at Kynoch, South African agriculture is still blessed because there are numerous products available from which fertiliser strategies can be compiled. 'The Registrar of Fertilisers allows producers to use prescribed mixtures for virtually all their needs. There are also various good sources of lime in South Africa to ameliorate soils. South Africa unfortunately does not have many natural gypsum deposits that can be traded more cheaply than the gypsum volumes from industrial processes, of which a considerable number are available,' he maintains.

He adds that soil status can be determined only through proper soil analysis. 'This means that a representative soil sample of a soil volume must be taken and sent to a recognised laboratory for analysis according to a recognised extraction method.' All extraction methods applied by a laboratory should be accredited with the Agri-Laboratory Association of Southern Africa (AgriLASA). Dr Schmidt warns that the use of an extraction method for which no norms exist can be risky and misleading, and therefore holds risks for the producer.

An independent agriculturist, Cobus Burger, maintains that soil analyses of topsoil (15 cm depth) and sub-soil (30 cm to 40 cm depth)

can give a good indication of how many milligrams per kilogram of each element are present in the soil and whether this is in proportion or not. 'Know or analyse your soil status and then make judicious decisions on how much and what types of products will be applied.'

Cobus explains that some nutrients should be applied by calculating how many kilograms of the application of a nutrient will increase the number of milligrams per kilogram in the soil so that the soil status is optimal and sufficient quantities of the nutrient are available to the plant. For example, if a producer wants to increase the phosphorus (P) from 20 mg/kg to 25 mg/kg and the soil density is 1,3 g/cm^3 x 30 cm = 3,9, then 19,5 kg P should be administered (5 x 3,9 = 19,5 kg P).

Cations in the soil that are held by the negative charge of clay particles should not only be optimal in milligrams per kilogram, but also in proportion. The ability of the soil to store everything should be respected. If too much lime is administered, the calcium (Ca) and magnesium (Mg) (in the case of dolomite) can increase so much that an important element like potassium (K) can be sufficient in milligrams per kilogram, but low in proportion to other cations. The root systems of the plant will not be able to absorb enough K.

The solution in this case where lime or gypsum was administered, is to change the fertiliser mix and, for example, to fertilise more K in a band before planting to attempt to make sufficient K available to the plants.

THE IMPACT OF SOIL STATUS ON YIELD

Cobus mentions further that soil status has an extremely large impact on production. It affects sustainability to such an extent that unnecessary yield losses occur if the soil status is lacking essential nutrients.

He explains that a plant absorbs nutrients from the soil for optimum production under a given set of climatic and soil conditions. The needs of the various crops differ with respect to the quantity of each nutrient required to grow, to develop and then to produce in tons or kilograms per hectare. Crops also differ with respect to the amount of a specific nutrient that is removed through the harvesting process and the amount of nutrients that remain behind after parts of the plants (roots and leaves) have decomposed.

When climate stress is present, plants consume nutrients instead of storing them for production. The less balanced the quantity and proportion with respect to other nutrients the food is that plants absorb from the soil, the more vulnerable they are to climatic extremes. They also have a lower resistance to diseases and pests.

As root systems differ from crop to crop, the ability of a crop to absorb nutrients effectively from the soil varies. This is one of the main reasons why the fertiliser and soil status requirements of crops differ.

The texture of different soils also varies. Soils with more silt and clay can store more nutrients in a certain volume of soil than a more sandy soil where fewer nutrients can be stored in the same volume of soil.

The better you...

The physical properties (texture) of the soil up to a depth of 40 cm or 60 cm must be taken into account before a producer can decide about the amount of fertiliser and/or lime to apply. Topsoil (40 cm/60 cm) contains the most oxygen and therefore the most fine root activity if it is well aerated and does not crust after the first hard rains.

David adds that uninformed or improper management decisions can, over time, lead to different levels of soil deterioration. 'Without healthy soil it is almost impossible to continue producing sustainably enough to feed a growing population.'

Thomas Strydom, agricultural consultant at Sion Agri, maintains that high yields should not always be the only aim, but that sustainable profitability should also be pursued. 'The aim is for the producer to exploit his particular soil potential per farm to the maximum. The soil will perform just as well as it is handled and the old saying about the weakest link in the production line determining the yield still applies.'

The cost crunch and low commodity prices make it extremely difficult for the producer to do everything 100% correctly and it is often simply not possible, Thomas says. 'My advice is always to determine what the most important factors are and where the biggest risks lie. Save in the places where the profits will not be directly affected. Handle these areas first and then manage them as far as possible.'

He advises producers not to spend money needlessly, but also not to save on the most important inputs like quality products, seed and good growth-medium development. 'That is where the difference will lie in the long term – particularly if stress factors occur during the season, for instance periods of drought. Plants growing in a healthy, fertile medium can handle poor conditions just so much better and provide the chance to achieve above-normal yields under in good conditions.'

HOW SHOULD SOIL STATUS BE CORRECTED AND MANAGED?

Thomas Strydom, independent agriculturist consultant at Sion Agri, answers the question like this: 'Many variations and problems occur with regard to soil. The most important is probably the fact that the producer does not necessarily know and understand the variations and properties and just generally addresses them like his neighbour or predecessors.' However, there are basic aspects that need attention:

1. Chemical soil management should be regarded as a whole and not only with respect to pH. Factors like exchangeable acid, acid saturation, calcium and magnesium ratios and physical quantities in milligrams per kilogram in soil as well as availability of the elements for plant absorption all play a cardinal role. Calcium levels in the top and sub-soil should also be considered (especially for areas producing soybeans, groundnuts and sunflowers and that are prone to utilising sub-soil more due to their tap root systems). The potassium levels in the Highveld and KwaZulu-Natal are particularly under pressure because of good production of soybeans, and good management and fertilisation of the crop not necessarily being applied. Extraction is therefore higher than the fertiliser provided and this degrades fertility.

2. Sandy soils with low cation exchange capacity (CEC) will, for example, acidify faster due to poor holding ability of cations, compared to strong clay soils, where there are many elements and almost no leaching takes place. However, in the high CEC soils element establishment is a reality. It does not help that there is more than enough of some elements, but due to the supressing effect of other elements the plants cannot absorb them. In sandy soils, the physical quantities of elements are extremely important, since they tend to become particularly low. In clay soils the availability and the ratios between elements are more important.

3. Quality of analyses as well as lime sources should receive attention. Recommendations and the effectiveness of the recommendations can be just as good as the information on which they are based, as well as the product being used. There are large variations in the market in this regard, which makes it extremely difficult for producers to decide whom to believe and what to use. Thomas recommends that clients build trust in persons with whom they can collaborate, and also to always assess the information (yields and yield charts) and compare this with their practical experience. The effectiveness of lime sources differs drastically and should be evaluated according to laboratory analyses done by themselves, as well as the calcium carbonate equivalent (CCE) and product analyses of each product. These should then be measured against the delivered price per ton on the farm.

4. Different soil types with different chemical characteristics play an enormous role. Since the yield potential of soil and the chemical extraction per crop vary, it is important to take grid soil analyses every two to four years to address the variations. By varying fertilisation/liming and plant population with respect to accurate information like soil potential, yield data and zone management, some of the variations can be managed and handled to ensure that the maximum profit margin can be achieved. ■

VALERIE CILLIERS, EDITOR, SA GRAAN/GRAIN. FIRST PUBLISHED IN SA GRAAN/GRAIN JULY 2021

THE CORNER POST

VIEWPOINT

PETRUS RANKO TSOTETSI

Farming is a long-term commitment

PETRUS RANKO TSOTETSI (55) BELIEVES PASSION AND PLANNING ARE KEY IN THE AGRICULTURAL INDUSTRY. HE SAYS YOU MUST LOVE WHAT YOU ARE DOING, HAVE A CLEAR VISION OF WHAT YOU WANT TO ACHIEVE AND BE COMMITTED TO REACHING THE OUTCOME.

FROM MECHANIC TO SUPERVISOR TO FARMER

Petrus wasn't initially destined for agriculture. He studied motor mechanics in Bethlehem and even operated his own car repair workshop. He then became a supervisor for Metrorail in Pretoria.

In 2009 his father, Joseph, who was a grain and cattle farmer, passed away. This was truly a life-changing event for him, which compelled him to make a career change. After his father's death he would occasionally visit the farm – which was about 350 km away – just to ensure that everything was still running smoothly.

When he noticed that equipment was being stolen, he made the big decision to leave the city life and a secure income behind, and to honour his late fathers' legacy and start farming full-time on his father's land. At this stage his wife, Ophelia, could not join him as she had a stable job in Pretoria and their two sons and daughter were at school there.

Once he made the decision to farm, he was committed to making a success of his new career path. As he believes that you need to collect as much information as you can about the career path you choose, he successfully completed agricultural courses in 2013 and 2014.

PASSION, FOCUS AND COMMITMENT

Petrus farms on Die Bult, his father's 316-hectare farm in the Thabo Mofutsanyane District near Kestell in the Free State. Here he plants crops – maize, soybeans and sugar beans in a rotation system – on 206 hectares of arable land, and his livestock graze on the other 110 hectares. He is also an asparagus farmer and as it is a very labour-intensive operation, with asparagus having to be harvested daily for about six months, people in the community have benefitted as they were employed by the cooperative.

One of Petrus's dreams is that as a fully-fledged commercial farmer he can provide more jobs in the community and influence people to acknowledge the importance of agriculture. 'I wish the people of South Africa, especially the youth, would realise how important agriculture is and develop a love for farming. This is how the economy can grow,' says Petrus, who has a passion for changing the youth's viewpoint on farming.

Petrus joined Grain SA in 2013 and became part of the mentorship programme in 2016. Johan Kriel and Jacques Roux have played a big part in his development. 'They were both good mentors who taught me how to plan before planting and how to monitor my plants as they grow. They helped me to manage and handle my finances. I can now do things on my own.'

His agricultural knowledge has increased tremendously over the past 13 years, as learning new agricultural practices and discovering advanced technology in the sector are important to him. He has benefitted from further training through attending study groups and courses such as farm management and financial management, technical advice on the calibration of planters and sprayers and other practical courses.

'I never knew what a big difference soil preparation and applying the right fertiliser at the right time would make,' he says.

Other agricultural practices that have contributed to an increased yield on his fields are crop rotation and planting time. 'I used to plant the same crop on the same land at the same time. Now I do crop rotation.'

A big agricultural lesson he learned is how important it is to plant on time, but he has also realised that even if you do everything right, you cannot predict the weather. 'Somewhere in your farming career you will experience drought and veld fires will wreak havoc, so being prepared at all times is crucial.'

Because of the input and support Petrus has received from Grain SA and others, he is committed to farming successfully. 'If people invest their time and advice, you repay them by doing a good job.' This is why he is a hands-on farmer who checks on his growing crops to ensure that there aren't weeds or pests destroying his healthy crop.

KNOWLEDGE MAKES THE DIFFERENCE

He believes a lack of knowledge is one of the biggest obstacles amongst developing farmers. 'I wish they would all participate in the programmes and courses that are offered, so that they can get more information and knowledge on how to operate their farming enterprises and grow their businesses.'

The biggest lesson he has learned in the past 13 years, is that a farmer must work hard and keep his eyes and ears open. 'I have also learned patience, as farming is a long-term project. You have to be focused, love what you are doing and be devoted.'

Petrus is driven by his passion and dedication. 'I became a farmer to fulfil my father's wish, as he was a passionate farmer. Now I have developed a passion for farming as well,' he says. Seeing the progress he has made and being able to help others through job creation motivates him to keep on going, even though there are struggles and stumbling blocks on his path. ■

LOUISE KUNZ,
PULA IMVULA CONTRIBUTOR

A programme that is changing lives

Reap the harvest of GOOD PLANNING

TRANSFORMATION IN THE GRAIN SECTOR REMAINS AT THE CENTRE OF THE NATIONAL GOVERNMENT POLICY. GRAIN SA BELIEVES A MULTI-PRONGED APPROACH TOWARDS ENSURING THE COMMERCIAL VIABILITY AND SUSTAINABILITY OF EMERGING COMMERCIAL FARMERS IS A PRIORITY FOR ALL STAKEHOLDERS IN THE AGRICULTURAL SECTOR.

'The agricultural sector has the potential to be a key driver on South Africa's road to economic reconstruction and recovery,' said President Cyril Ramaphosa on 15 March, when he addressed the Bonsmara Breeders' Society. He also said land reform and livestock development in rural areas, where most emerging farmers are based, is an area where both the government and the agricultural sector must find ways to cooperate. However, the challenges to this growth path are not insignificant.

CHALLENGES

Grain SA is acutely aware of the impact of the following challenges:

- Rising input costs.
- A sophisticated yet volatile and challenging marketplace.
- Narrowing profit margins.
- An uneven trade environment, including highly subsidised imports which jeopardise the local economy and small-scale producers in particular – for example, the competition for local poultry and dairy industries against dirt cheap imports.
- Poor infrastructure including rail, roads and electricity supply.
- An erratic and unreliable transformation policy environment.

The organisation knows that critical strategic interventions are necessary for land reform programmes to revive rural communities. Although grain farmers in South Africa do not have infinite capacity to change policies, they do have the required expertise to give input into farmer and on-farm development.

To this end, Grain SA commits to pursuing every opportunity to share knowledge and assist in the transformation process. Grain SA is not daunted by this task and has a passionate team of experts ready to meet developing farmers and walk alongside them.

The Farmer Development team during their strategy session.

STRATEGY

After this year's Grain SA Congress the Farmer Development team got together for a few days to share their news, discuss challenges and do some strategic thinking. It is important to remember that the focus of this programme is always on farmer development, rather than only on farmland development.

- The primary aim is to assist active grain farmers to grow, regardless of the size of their operations.
- The importance of supporting the large commercial farmers more is acknowledged, so their contribution to national grain production continues to grow.
- Awareness is raised of the work that Grain SA does for grain farmers, and membership of the organisation is encouraged to support the work being done.

ADVICE LEADS TO SUCCESS

For a change, the challenges of this season are largely because of too much rain rather than too little. This has negatively impacted some farmers, but it is still believed that the crop potential is greater than it would have been if many farmers did not have support.

The advice offered by Grain SA's team to farmers on subjects such as soil health, fertilisation and spray programmes to control weeds and fungus, has helped farmers in the programme get the best yields they can in a wet season. May the harvest be good – may you get rewarded for your labour!

AT GRASS ROOTS

John Jabulanyi Ngwenya proves that age does not matter. His John Deere 440 is still going strong.

Heavy rain flooded an area of maize on the lands of Marareni Siphiwo in the Eastern Cape.

Tsephe Phutheho attempting to get into waterlogged fields to do post-emergent weed control.

The committed team does not let injuries deter them from helping the farmers. Mentor Chris de Jager and farmer Harry Khumalo discuss the soil quality of newly acquired lands.

Meeting on home soil

IT'S that time of year when we are reporting on the Farmer Development Programme's activities and we are excited by the opportunities that have crossed our paths. We appreciate every involvement and contribution from all the interested role-players in the sector.

This 2021/2022 season has seen us actively engaging with the following numbers of farmer members in the different categories on at least one of our platforms:

- **86 new era commercial farmers**
- **215 potential commercial farmers (> 100 ha)**
- **318 smallholder farmers (10,5 ha to 100 ha)**
- **11 916 subsistence farmers (0,5 to 10 ha)**

6 879 active male farmers

6 277 active female farmers

The support to individual farmers is focussed on building sustainable farming enterprises. We aim to provide intensive one-on-one support to outstanding candidates who have come out of the study group system in terms of production planning, management, making financial applications and reporting. The individual support should better equip these farmers to manage as commercial farmers with occasional telephonic advice from their mentors.

A total of **208 advanced farmers** are currently being supported and they have already received **853 on-farm visits with one-on-one mentorship**. Over time these individuals have proved themselves on a number of levels including commitment, competency and potential. It is believed that with intensive one-on-one support they could grow their farming enterprises further.

New era farmer Ntonga Thobani of Cedarville Farm near Mount Ayliff in the Eastern Cape has a great crop of maize on the land.

Another new era farmer Thabang Tsephe farms at Ongeluksnek near Matatiele in the Eastern Cape. He is a member of the 500 Ton Club and is supported by regional development manager, Luke Collier, from the Kokstad office.

Patrick Stuurman, a new era farmer from the Alfred Nzo Municipality in the Eastern Cape, also receives support from the Kokstad office. Patrick is the executive member for region 33.

Learning changes lives

THE study groups offered by Grain SA's Farmer Development Programme serve as a platform for transfer of information including theory and practical. It also offers a place where regional development managers and mentors can be instrumental in updating farming systems, and changing lives.

Here are some statistics about the study groups:

- Between 1 October 2021 and 28 February 2022 a total of **616 study group meetings** were held.
- Currently **175 study groups** are being serviced by expert agriculturalists and trainers.
- Agricultural support services have been provided to farmers who are active members of these groups and **6 221 attendances** have been recorded.

A meeting held with the Zaaiplaas study group in Limpopo. These farmers reached out to Jerry Mthombothi, regional development manager from the Mbombela office, for guidance.

Study group members often attend one of the practical skills courses presented by Grain SA trainers like the planter and boom sprayer calibration course.

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