

PULA IMVULA

GROWING FOOD • PEOPLE • PROSPERITY



GRAIN SA MAGAZINE FOR DEVELOPING FARMERS



The 2022 winners: On his brand-new John Deere 5075E utility tractor is Flip Manoto. In the front are Bheki Mabuza, Khuphukile Mazibuko and Joseph Mokaleng.

Time to celebrate HARD WORK and SUCCESS

AFTER A TWO-YEAR ABSENCE, GRAIN SA'S DAY OF CELEBRATION WAS HELD AT NAMPO PARK ON 21 SEPTEMBER. THE AIM OF THIS EVENT IS TO GIVE RECOGNITION TO ALL DEVELOPING FARMERS WHO ARE PART OF THE GRAIN SA FARMER DEVELOPMENT PROGRAMME AND THOSE WHO EXCEL IN THEIR CATEGORIES.

The Day of Celebration embodies not only the rich diversity of South Africa, but also the unifying passion for agriculture that exists within the country's farming community. The festive atmosphere and colourful traditional attire worn by many of the participants make this event a highlight on the Grain SA calendar.

Attending the event were the deputy minister of agriculture, rural development and land reform, Rosemary Nokuzola Capa, and representatives from the Department of Agriculture, agribusinesses, organised agriculture, the media and the private sector.

TOP PERFORMERS

The crowd were on their feet when the 2022 Grain SA/Absa/John Deere Financial New Era Commercial Farmer of the Year was announced. Mapidinyana Phillip (Flip) Manoto farms with maize and sunflower on 550 ha near Lichtenburg in North West. He became a member of Grain SA in 2016 and is mentored by Du Toit van der Westhuizen. He is also a member of the 1 500 Ton Club since 2017. Flip and his father own the farm Lusthof near Lichtenburg, where his future goals are to expand and diversify. He is excited about the current crop, which he hopes will make up for the previous drought-stricken season.

Wearing traditional attire, Bheki Isaac Mabuza was announced as the 2022 Grain SA Potential Commercial Farmer of the Year. He is guided by the regional coordinator, Jurie Mentz. Bheki, who lives on the farm Donkerhoek near Piet Retief in Mpumalanga, started planting maize in 2007, but the crop was not a profitable harvest. In 2014 he joined the Grain SA study group in Donkerhoek and this has made



all the difference. 'I have learned many farming skills since joining the study group,' says Bheki. He is married to Dududzile and has eight children. The oldest, Siyabonga, helps his father on the farm, while the others attend school. His mentor, Jurie Mentz, says Isaac is growing his agricultural business year on year.

Joseph Tuelo Mokale, who is mentored by Du Toit van der Westhuizen, was crowned as the **2022 Grain SA Smallholder Farmer of the Year**. Joseph has never worked anywhere else but on the piece of land in Morena Village near Delareyville in North West, where his grandfather and father farmed on a small scale. He left school to join his father, where they ploughed with donkeys, until Tuelo was able to buy a Massey Ferguson tractor. He took over the farming when his father became too old to work and completed his first course with Grain SA in 2006. Since then he has completed more than ten courses, ranging from implement maintenance to advanced maize production and marketing.

The **Grain SA/Absa/John Deere Financial Subsistence Farmer of the Year** is Khuphukile Vinah Mazibuko, with Graeme Engelbrecht as her regional development coordinator. Khuphukile farms in the region of Dundee in KwaZulu-Natal, where she lives with her husband,

Nsiyane, and their two sons. She is a community caregiver for the Department of Health but has always been farming on a small scale. She joined Grain SA in 2015 and has since been farming for profit. Khuphukile has always been very involved in the community and is currently teaching local farmers about the no-till project. She wants to expand her maize crop and venture into poultry.

WE SALUTE YOU

Dr Pieter Taljaard, chief executive officer (CEO) of Grain SA, congratulated all the nominees and highlighted the fact that nine graduate farmers joined the 250 Ton Club (more than R1 million turnover), 16 joined the 500 Ton Club (more than R2 million turnover), two joined the 1 000 Ton Club (more than R4,5 million turnover), four the 1 500 Ton Club and four the 2 000 Ton Club (R9 million turnover).

Graduates who joined the **1 500 Ton Club** are Paul Motlokoa, Johannes Setshego, David Nhlapo and Xolani Gumede. The four farmers who joined the **2 000 Ton Club** are Samuel Moloi, Israel Motlhabane, Badge Skosana and Frans Mokoena.

Supporters of the programme include the Maize Trust, the Oil and Protein Seeds Development Trust (OPDT), Bayer, the South African



1: The master of ceremonies, Dr Sandile Ngcamphalala, welcomed the delegates and reiterated the importance of celebrating the successes of the programme and the hard work of all involved. Sandile is the Farmer Development lead, responsible for Phahama Grain Phakama, an independent arm of Grain SA.

2: The Deputy Minister of Agriculture, Rural Development and Land Reform, Rosemary Nokuzola Capa, was the keynote speaker.

3: South African artist, Siki Jo-An, entertained the guests with crowd favourites such as African Dream, The Click Song and World in Union.

4: The Mangaung Marimba Band put guests in a festive mood as they arrived at NAMPO Park.

5: Some of the Farmer Development team members watch proudly as their mentees receive recognition. Standing at the back from the left are: Jurie Mentz, Graeme Engelbrecht, Luke Collier, Johan Kriel and Jacques Roux.

Cultivar and Technology Agency (SACTA), SA Breweries (AB InBev), Kgodiso Development Fund (PepsiCo), Sasol Agricultural Trust and Sasol South Africa.

A big thank you to the sponsors of the event: Absa, John Deere Financial, Bayer, Standard Bank, Hollard and DeKalb. Sponsor representatives, Dr Langelihle Simela (business development manager, Absa, AgriBusiness Centre of Excellence), Fortune Mathiba (operations manager at John Deere Financial) and Marthinus Looock (senior manager, AgriBusiness at Standard Bank) announced the winners in each category. ■

VALERIE CILLIERS,
SA GRAAN/GRAIN EDITOR



A WORD FROM...

Dr Pieter Taljaard

LOOKING BACK AT ANOTHER CHALLENGING YEAR, WHO WOULD HAVE THOUGHT THAT AN EXTREMELY WET SUMMER, WAR IN UKRAINE AND BELOW AVERAGE WINTER RAINFALL WOULD HAVE BEEN ON THE MENU FOR 2022? EISHH... IS THE ONLY THING I CAN SAY WHILE I CAN'T HELP WONDERING WHAT IS IN STORE FOR 2023.

If one looks at the current state of the global and specifically our regional economy, it certainly spells 'challenge'. Food security remains the biggest threat in my mind, and if this is not enough, 2023 will surely also be characterised by election preparations across the board on the political radar, leaving the grinding to the industry by itself. Surely an unfair statement, but the fact is that the rate of change needed to keep up with consumer demands and challenges is lacking far behind.

On the production side, farm economics is severely under pressure – mainly driven by the global (and locally amplified) energy crisis and further also multiplying consumer inflation with disastrous and shocking effects. It is a perfect opportunity for opportunistic politicians to promise the impossible to hopeless voters. Is this really that bad? Yes, but we do have hope, we see an outcome.

What a privilege and cheerful day it was to once again host the Day of Celebration in September. Another big hooray and congratulations to all developing farmers in South Africa – you are all winners. It is amazing to listen to the farmers' stories and experience the results – this is what makes us a great nation.

This event confirmed to me that Grain SA is getting it right and that we are winning the battle. Despite all the challenges, significant progress was made by taking it head-on. However, this was only possible because of the abundance of 'grace water' that we have been blessed with during the past three seasons. A big thank you to all who contributed to make this possible.

As we are entering the festive season and the beginning of the new (expensive) growing season, let us remember to be cheerful and thankful expecting another blessing. Farm your land the best you can, *Phahama Grain Phakama* and may God be with us all.

– Dr Pieter Taljaard is the CEO of Grain SA. ■



Weed control is essential for crop health

ALL CROPS ARE VERY SENSITIVE TO WEED COMPETITION. WEEDS IN THE YOUNG STAGE OF THE CROPS CAN EASILY TAKE UP TO 60% OF THE CROPS' YIELD AND WITHOUT WEED CONTROL, IT CAN BE EVEN MORE.

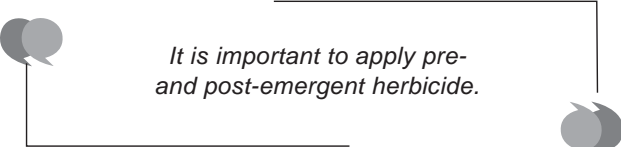
USE OF HERBICIDES

The inaccurate use of herbicides often results in ineffective weed control and crop damage. Most problems can be prevented by strictly following label prescriptions. You are compelled by law to do so, as published in the *Government Gazette*.

It is important to apply pre- and post-emergent herbicide. Contact your local chemical representative to help with the selection of the best herbicide range for your farm.

The application of the herbicide is critical. Make sure that the sprayer is in a good working order and that the correct spray nozzles are used. It is also very important to follow the mixing instructions of the herbicide. With the use of roundup herbicides, the correct mixing orders are critical.

With maize at this time of the year, make sure that a second herbicide application is done. This application will control the late emergence weeds. Good information is available on the Agricultural Research Council (ARC) website.



It is important to apply pre- and post-emergent herbicide.

SUNFLOWER

Sunflower is very sensitive to weed competition, particularly in the young stage. If weeds are not effectively controlled during the first six to eight weeks after emergence, up to 50% of the potential yield may be lost. The best control is achieved by implementing a system making use of both mechanical and chemical means.

- Prepare your lands thoroughly before and during planting. A well-prepared seedbed ensures not only good germination, but also creates optimum conditions for chemical herbicide killers.
- It makes sense to apply a herbicide that can control the emerging grasses and help with the control of some broadleaf weeds.
- When the seedlings have established themselves and reach approximately 15 cm in height, a 'millipede' may be used to control young germinating weeds – preferably during the warmest parts of the day.
- If Clearfield cultivars are planted, make sure that the Clearfield herbicide is applied according to the recommendations as well as the type of sunflower planted.

- Later, cultivations between the rows may be carried out with a tined implement. As damaged plants recover with difficulty or not at all, cultivations must be shallow in order to avoid any unnecessary damage to the roots.
- If necessary, all khaki weed plants must be removed before harvesting. Seed harvested together with khaki weed assumes the smell of the latter and can be degraded.

It is important to remember that sunflower is particularly sensitive to the residual effect of Atrazine. On certain soils such as black turf, the residual effect of Atrazine can still damage sunflower two seasons later. Where sunflower is grown in rotation with maize, weed killers with a short residual action must be used on the maize.

TOP DRESSING OF CROPS

It is very important to make sure that the crops have sufficient fertiliser available at the right growing stage of the crop. For maize plants, all the fertilisers must be available at the eight-leaf stage. This is not when the plant will use the fertiliser, but it is when the plant determines the yield potential. Make sure that at least 15 kg of nitrogen is applied for every expected ton of maize. It will also help to apply potassium but discuss it with your representative.

With the top dressing, a shortage in fertiliser can be corrected. Make use of the fertiliser representatives to determine if extra fertiliser must be applied. To calculate the yield potential of the crop, it is important to take into account the weather forecasts for the rest of the season and compare it to the fertiliser already applied. If the yield is better than expected, apply a little bit more or if the yield expectation is lower, do not apply.

However, it does not matter what the decision is – just make sure that you understand the consequences, as too much fertiliser is just as harmful as too little fertiliser.

For sunflower, it makes sense to apply the nitrogen as late as possible. Make sure that for sandy loam soil, 10 kg nitrogen per ton yield is available. The crop will use this nitrogen to fill the seeds and not to produce a big plant. For soils with about 40 mg/kg potassium in the soil, make sure that at least 10 kg potassium per ton yield is available.

It makes sense to discuss your fertilisation strategy with your fertiliser representative. ■



PIETMAN BOTHA,
INDEPENDENT AGRI-
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Know your pests: *Sesamia*

LEPIDOPTERAN PESTS SUCH AS *SESAMIA* CAUSE MAJOR DAMAGE IN MAIZE FIELDS, RESULTING IN SIGNIFICANT YIELD LOSSES. TO MANAGE THESE PESTS EARLY WITH THE RIGHT SET OF TOOLS, IT IS VITAL THAT FARMERS CAN IDENTIFY THEM.

PINK STEM BORER

Sesamia, better known as the pink stem borer, occurs mainly along the coastal regions, the Lowveld of Limpopo and Mpumalanga, North West and parts of the maize triangle. Completion of the pink stem borer's lifecycle varies between six to ten weeks.

Similar to the Chilo borer, pink stem borers start moth flights as early as September and have five overlapping generations per year. Moths are active during night-time and live between two to 14 days. Moths need early maize plantings for egg laying and survival, even though grass is sometimes preferred.

Female moths lay large groups of more than 100 eggs, mainly between leaf sheaths or close to maize cobs. A single female can produce up to 1 000 eggs. Eggs are creamy white in colour but darken before hatching in six to nine days, depending on the host plant and temperatures.

Emerging larvae immediately penetrate into stalks or maize cobs, where they continue to feed and exit the plant if it's no longer an adequate source of food. Larvae are usually creamy white in colour, with a distinctive pink colouring. The larval stage lasts between three to six weeks, after which pupation occurs within the stem or between the leaves.

Damage

In the summer rainfall area, infestations are more severe during October/November in seedlings and in February/March when cobs are present. The first visible symptoms include damage to the growing points (dead hearts) because larvae bore directly into the stem, without damage to the whorl leaves. Early maize planting under pivot irrigation is very susceptible to pink stem borer attacks.

CONTROL OF STALK BORERS

One of the main options for control is the use of chemical applications, with products registered specifically against stalk borers. However, it is important that chemical control strictly adheres to responsible use, which includes taking the necessary safety measures, alternating chemical groups and spraying at recommended dosage rates as per the product label.

Planting maize cultivars modified with insect-resistant technology (for example, Bt crops) is another option for protection against infestations by stalk borers. For successful stalk borer control and to manage insect resistance efficiently, it is crucial that the area planted with Bt maize includes the planting of a mandated refuge.

Cultural control options include earlier planting dates in the winter or early in the spring to expose overwintering larvae or cover pupae with soil, as moths are not equipped to reach the soil surface when they hatch. Other measures include the control of volunteer maize plants, the selection of varieties with inbred resistance, allowing beneficial insects to play a role and the regular scouting of fields to identify stalk borer infestations earlier rather than later. ■



*The presence of *Sesamia* larvae is clearly visible in this maize cob.*



**Sesamia* larvae in a sugar cane stalk.*

Avoid risks with the

WITHOUT ANY TOOLS USED TO CHANGE THE SITUATION, A PRODUCER IS A PRICE TAKER. PRICE TAKERS HAVE MANY RISKS, AS THE PRICE WHICH YOU ARE GIVEN DOES NOT TAKE YOUR PRODUCTION COST INTO ACCOUNT, AND IT DOES NOT MATTER WHETHER THE FARMER IS MAKING A PROFIT OR A LOSS.

One of the most important concepts in farming is risk management. If a producer wants to keep his head above the water and stay profitable, he must therefore be able to manage his risk. An important tool for risk management is options – to be more specific, put and call options. These contracts come at a price known as a premium.

SOME IMPORTANT TERMS TO UNDERSTAND:

- Underlying asset: A commodity such as maize, soybeans and wheat.
- Premium: The price that a producer pays to buy a contract.
- Strike price: The fixed price at which the contract can be exercised.
- Break-even point: The point where the price has moved in such a way that the profit is equal to the premium.

OPTIONS

A **put option** is a contract that is giving the buyer the right, but not the obligation, to sell a specific underlying asset (in this scenario, maize) at a specific price in a specific time frame. This tool helps farmers to protect themselves against decreasing prices – but the farmer thinks prices will increase, therefore it protects him against the downside. If the price falls, the worth of the put option increases.

A **call option** is a contract that is giving the buyer the right, but not the obligation, to buy a specific underlying asset (in this scenario, maize) at a specific price in a specific time frame. This tool helps millers to protect themselves against increasing prices – but the miller thinks prices will decrease, therefore it protects him against the upside. If the price increases, the worth of the call option increases.

Practical example

Imagine a scenario for the following season (2022/2023 production season). A farmer in Mpumalanga is planning to plant 50 hectares of yellow maize and buying his inputs for the planting season in September 2022. He calculates that his inputs will cost him R21 000/ha. The ten-year average yield for yellow maize is 6 t/ha. The current price

for the July 2023 contract is R4 500/t. The price of buying a put option is R300/ton.

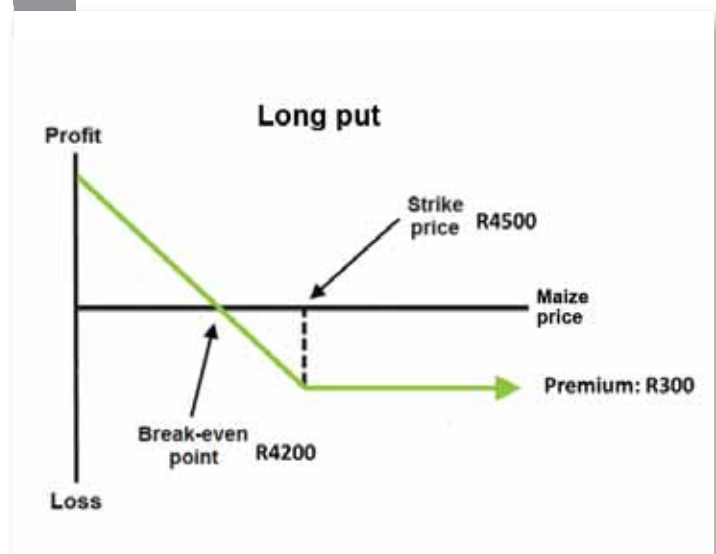
Given

- Crop: Maize
- Hectares: 50
- Input cost: R21 000/ha
- Average yield: 6 t/ha
- Current July 2023 contract price: R4 500/t
- Price of put option: R300/t

With the input costs at R21 000/ha, at a price of R4 500/t, a farmer needs to sell about 5 t/ha to cover the input costs. This means that a producer will buy a put option with a strike price of R4 500/t, which will cost him R300/t.

1

Long-put option.



Scenarios (Figure 1):

- 1) Should prices remain the same at R4 500: Price received = R4 200 (R4 500 - R300). The farmer will close out his position and will receive R4 200, which is calculated as follows: The strike price of the option (R4 500) minus the premium (R300) and sell his maize in the market at R4 500/t.
- 2) If the price falls to R4 000: Price received = R4 200 (R4 500 - R300). The farmer will exercise his option to sell at R4 500/t. He will then receive R4 200/t, which is calculated by exercising his option and selling the maize at the strike price (R4 500) minus the premium (R300).
- 3) If the price increases to R5 000 = R4 700 (R5 000 - R300). The farmer will not exercise his option. He will sell his maize on the open market at the market price (R5 000) but must still pay the premium (R300).

right option

CONCLUSION

Options are tricky to understand but have many benefits to farmers in uncertain times to mitigate their risk, if used correctly. There is an upside and a downside to options, but if used in the correct strategy, the chances for major losses are minimised. ■

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HEALTH AND SAFETY

Part 6



Safe handling of chemicals

ALL CHEMICALS SHOULD BE LOCKED AWAY IN ITS ORIGINAL CONTAINERS AND NOT IN HOUSEHOLD CONTAINERS. ALWAYS USE REGISTERED CHEMICALS. EMPTY CONTAINERS MUST BE STORED IN A WELL-VENTILATED AREA AND REMOVED BY AN APPROVED CONTRACTOR, AND NOT RE-USED FOR OTHER PURPOSES.

Requirements for the storage area are the following:

- Must be well ventilated.
- Must be a locked facility, with no unauthorised access. Red-label chemicals should be stored separately.
- Safety signs about employees' clothing as well as emergency numbers must be posted at the storage area.
- Fire protection equipment must be available.
- The floor surface must be constructed in such a way that it can collect 10% more than the volume of chemicals that are stored if a spill or leakage occurs.
- An eyewash bottle and an emergency shower must be available.
- A 'material safe data sheet' (MSDS) of the chemicals has to be accessible. Employees who work with chemicals must receive training in the MSDS. When an employee has been in contact with chemicals and is taken to a doctor, the relevant MSDS of the chemicals he/she was in contact with should also be taken to the physician.

Employees who work with chemicals must attend the 'Safe handling of chemicals' course. This course must be done at least bi-annually. The employer must also compile a safe work procedure and discuss it with his employees.

All employees who handle chemicals should undergo an annual medical test by an occupational health practitioner. ■

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PULA IMVULA

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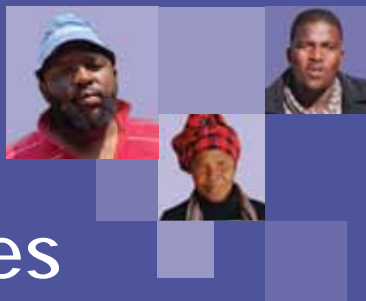
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A programme that is changing lives



Feedback

There is always more to learn

SEPTEMBER was a busy month for the Grain SA Farmer Development team and included visits to farmers, two study group meetings at Breyten and Salubindza, six farm visits, 15 school visits and seven training courses.



The Louwsburg team, under the leadership of Jurie Mentz, met with 16 farmers at Breyten, Mpumalanga. Discussions were focussed on the challenges faced in the past extreme wet season. The focus was on planning for the new season. Shadrack Mabuza from Bayer was also there to give advice to the farmers.



Agnes Mndawa, a trainer, presented a course named 'Introduction to dry-bean production' to smallholder farmers in Limpopo. The course was made possible by the Oil and Protein Development Trust (OPDT). Here attendees are shown how to take a soil profile.



Trainer Attie Louw presented the same course to a group of Free State farmers at Harrismith. It was also made possible by the OPDT. Farmers who attended the course learned how to do soil sampling.



The DVD Food, Fibre, Life – Economics: What's in it for me? was shown to 297 Grade 12 pupils and 180 Grade 9 pupils at Khula Secondary School in Komatipoort. The pupils learned more about the importance of agriculture in their daily lives. It also showed them the different agricultural career opportunities available.

We were THERE

THE highlight of the Farmer Development Programme, the Day of Celebration, was held in September. Here are some of the hard-working farmers who participated in the festivities. ■

