

2021

*Make contact*



# GRAIN

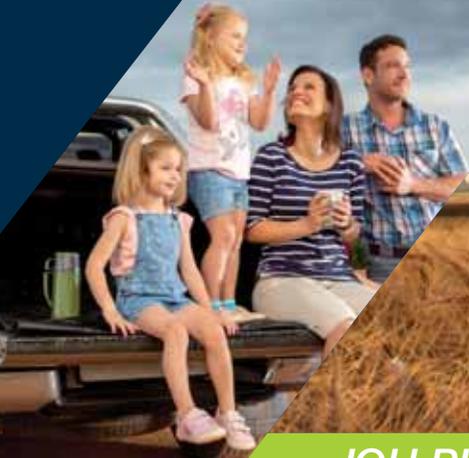
*Guide*





# Jou trots ons passie

JOU FAMILIE



JOU PLAAS



JOU DROOM

*Kom ons gesels ...*



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Ons weet boerdery is nie net 'n werk nie. Dis 'n leefstyl. Dis hoekom ons daar is. Met ons passie vir innovasie, geanker in navorsing en ontwikkeling, gerugsteun deur die raad van kundiges en ondersteun deur volgehoue vennootskappe, bly ons streef na 'n beter toekoms vir ons land en vir jou, die boer. Om die nasie te rugsteun het jy 'n vennoot nodig wat agter jôu staan elke oomblik van die dag. Maak Bayer daardie vennoot in jou besigheid.

***Jou trots is ons passie.***

**Science for a better life**

# A big guide in a small package TO BRING YOU IN CONTACT



In a COVID-19 year that has turned the whole world on its head, the agricultural sector has stood out like a beacon of hope in 2020. In spite of a multitude of challenges, the grain producers of our country have resolutely continued to produce food to ensure that South Africa maintains its food security.

It has been said that a producer's best crop ever is the one that is in the field now. This is the same calibre of belief with which the SA *Graan/Grain* magazine's editorial team approached Grain Guide 2021. And, true to the hope for tomorrow that we cling to, the local input providers and agribusinesses reaffirmed their belief in 2021 by once more taking their places in this handy reference guide, which

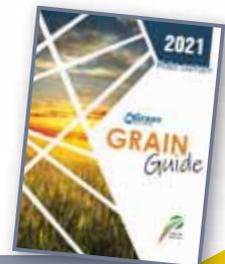
producers keep on hand throughout the year for valuable contacts in agriculture.

Keep in mind that the Grain Guide is published fully in Afrikaans and in English every year. It also appears online on the SA *Graan/Grain* website at [sagrainmag.co.za](http://sagrainmag.co.za).

Our aim is to keep on improving the *Grain Guide*. Feel free to contact us with suggestions or feedback. Send an email to [johan@infoworks.biz](mailto:johan@infoworks.biz) or call **018 468 2716**.

*Grain Guide greetings*

Johan Smit  
Managing Editor



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## GENERAL

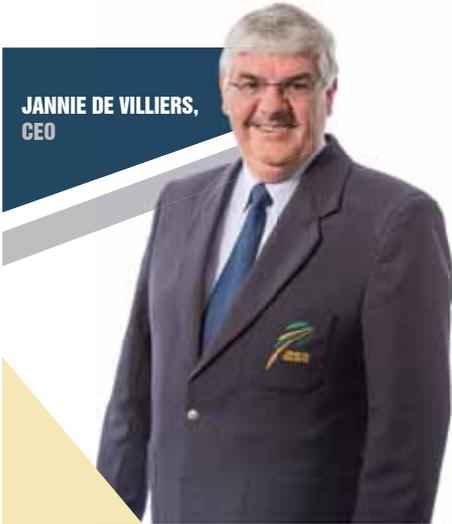
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# Focus on **IMPORTANT MATTERS**

tips the balance

**JANNIE DE VILLIERS,  
CEO**



**T**he past production year actually ended well. In most places the tonnage was good, but the profitability of the grain industry remains under pressure.

The number of years it takes to recover from a drought are increasing. It is very difficult for me to think of what will be required to change in order to make proper profits in the grain industry again so that we can do something about the debt burden.

Considerable focus is being placed on research to increase our yields and reduce production costs. Grain SA's other activities focus strongly on reducing input costs and on market information to be able to negotiate the best possible prices. The removal of barriers to make new technology available to producers also remains high on the agenda at all times. The grain producer is the one person who has to put all this advice and information together to get his profitability on a sustainable level. However, what we can never replace is your unique decisions about what is the best for you and your farm. All the best with that!

The aim of the *Grain Guide* is to assist you as a producer to put all the loose pieces together





Grain SA/Sasol photo competition  
– Stephan Erasmus, 2020

**“ THE GRAIN PRODUCER IS THE ONE PERSON WHO HAS TO PUT ALL THIS ADVICE AND INFORMATION TOGETHER TO GET HIS PROFITABILITY ON A SUSTAINABLE LEVEL”**

and making an interwoven linked network to make sure that you end up being profitable. The ultimate aim is therefore not just to chase tonnage, but profit. Chasing tonnage requires great challenges against nature in particular, but chasing profit also requires people and ingenuity to link networks together to overcome problems. Grain SA's *Grain Guide* is one of the essential things on your bookshelf that gives you access to all the networks of reliable service providers.

The market for our grain products keeps on growing – which offers us opportunities to expand our production. However, the challenge remains to expand it on a profitable basis. Predictions about the weather and the exchange rate or whatever have always been aimed at allowing you to plan better, but the predictions do not put money in the bank.

2021 will definitely again produce a number of things that can divert your attention from your core business, but it is your ability to focus on what is important that will tip the balance.

*Happy farming!*

Jannie de Villiers

# Grain SA events in 2021

## that stand out

(as at 29 October 2020)

### JANUARY

- 14 Grain SA Audit Committee
- 19 Grain SA Marketing Working Group and Sunflower and Soybean Forum
- 20 Grain SA Executive Committee (*Dagbestuur*)
- 21 Grain SA Winter Grain Working Group
- 22 Grain SA Canola Working Group, Lupine Working Group and SA *Graan/Grain* Editorial Committee

### FEBRUARY

- 2 Grain SA Maize Working Group
- 4 Grain SA Executive (*Hoofbestuur*)
- 9 Grain SA Groundnuts Working Group
- 10 Grain SA Sorghum Working Group
- 16 Grain SA Sunflower and Soybean Working Group
- 19 Grain SA SA *Graan/Grain* Editorial Committee
- 23 Farmer Development Working Group
- 24 Grain SA NAMPO Exhibitors Meeting and Grain SA Production/Input Working Group
- 25 Grain SA NAMPO Harvest Day Committee

### MARCH

- 3 - 4 Grain SA Congress, NAMPO Park
- 4 Grain SA Executive (*Hoofbestuur*)
- 16 Grain SA Executive Training
- 17 Grain SA Congress Evaluation: Internal
- 24 Northern Barley Working Group
- 25 Southern Barley WG
- 26 Grain SA SA *Graan/Grain* Editorial Committee

### APRIL

- 14 - 15 Grain SA Executive Committee (*Dagbestuur*) planning session
- 23 Grain SA SA *Graan/Grain* Editorial Committee
- 24 Sunflower & Soybean Forum

### MAY

- 11 - 14 NAMPO Harvest Day, NAMPO Park
- 21 Grain SA SA *Graan/Grain* Editorial Committee
- 26 Grain SA Winter Grain Working Group
- 27 Grain SA Production/Input Working Group

### JUNE

- 1 Grain SA Marketing Working Group
- 2 Grain SA Executive Committee (*Dagbestuur*)
- 3 Grain SA NAMPO Livestock & Exhibitors Meeting
- 4 Grain SA NAMPO Harvest Day Committee
- 15 Farmer Development Working Group
- 25 Grain SA SA *Graan/Grain* Editorial Committee

### JULY

- 21 - 22 Grain SA Executive (*Hoofbestuur*), NAMPO Park
- 23 Grain SA SA *Graan/Grain* Editorial Committee
- 28 Southern Barley WG
- 29 Northern Barley WG

### AUGUST

- 3 Grain SA Groundnuts Working Group
- 11 Grain SA Sorghum Working Group
- 12 Lupine/Alternative Crops WG
- 13 Grain SA Canola Working Group
- 17 Grain SA Maize Working Group
- 18 Grain SA Winter Grain Working Group
- 20 Grain SA SA *Graan/Grain* Editorial Committee
- 24 Grain SA Audit Committee
- 26 Grain SA Sunflower and Soybean Working Group

### SEPTEMBER

- 1 - 4 Swartland Show
- 8 - 10 NAMPO Cape
- 14 Grain SA Executive Committee (*Dagbestuur*)
- 17 Grain SA SA *Graan/Grain* Editorial Committee
- 21 Grain SA Farmer Development Working Group
- Grain SA Production/Input Working Group
- 22 Grain SA Day of Celebration
- 23 Grain SA Executive (*Hoofbestuur*)
- 30 NAMPO Alfa, NAMPO Park

### OCTOBER

- 1 - 2 NAMPO Alfa, NAMPO Park
- 5 Sunflower and Soybean Forum
- 7 - 8 Agri SA Congress
- 14 Grow for Gold
- 15 Grain SA SA *Graan/Grain* Editorial Committee
- 22 Grain SA Awards/Grain Producer Function
- 26 Grain SA Marketing Working Group
- Grain SA Remuneration Committee
- 27 Grain SA Executive Committee (*Dagbestuur*)

### NOVEMBER

- 19 Grain SA SA *Graan/Grain* Editorial Committee
- 25 - 27 NAMPO Park Christmas Market, NAMPO Park



# SEED

## CONTACTS

### INSTITUTION

**SA Cultivar and Technology Agency (SACTA)**  
*sakkie@lagric.co.za*  
012 807 3958

**South African National Seed Organisation  
(SANSOR)**  
*reception@sansor.co.za*  
018 472 9500



# Think TWICE about TREATMENT

**S**eed treatment should be approached with caution. Producers must ensure that appropriate and responsible gerbil management plans are implemented. Proven management plans that include rodenticides are available, therefore producers are advised to follow these management plans. Contact **Dr Verdoorn** at **082 446 8946** or **gerhard@croplife.co.za** in connection with these plans.

### Treating seed yourself could negatively affect germination

Seed companies do not guarantee the quality of seed if the seed treatment is not done by the seed company itself, or by a registered chemical supplier. The treatment for rhizobia is excluded.



**AGROCHEMICALS ARE SOMETIMES WRONGLY USED FOR SEED TREATMENT TO COMBAT THE EFFECT OF GERBILS. THIS CREATES THE RISK OF NEGATIVELY AFFECTING SEED GERMINATION, AND IT CAN ALSO CAUSE ENVIRONMENTAL DAMAGE WHEN SEED IS SPILT DURING PLANTING AND EATEN BY BIRDS AND ANIMALS.”**

– Dr Gerhard Verdoorn

A chemical supplier who conducts the treatment, must be able to ensure that the treatment will not affect the germination. The chemicals used must also be registered in terms of Act No. 36 of 1947 and preferably be recommended by the seed company.

**Corné Louw, senior economist: Inputs, Grain SA**



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# RECORD YIELDS

## at Grain SA's Grow for Gold



**G**rain SA hosted the first Grow for Gold National Yield Competition in Muldersdrift on Thursday 15 October 2020, celebrating 46 producers – from commercial to small-scale farmers – across 16 categories for outstanding yields achieved with maize, soybean and sunflower crops across South Africa.

Following extensive consultation with all seed companies, a standard protocol was established during 2019, ensuring the assessment of all participating producers on the same level and criteria. With the support of event sponsor Pioneer, supported by Corteva, this prestigious event created synergy between individual seed companies' regional yield competitions setting the bar high for future seasons.

Grain producers competed in various categories, including dry and irrigated land – both regionally and nationally. In order to achieve the highest yields per hectare, regardless of the cultivar planted, innovative production practices and smart farming plans were vital to their success.

Jannie de Villiers, Grain SA CEO, thanked seed companies for their participation and engaging, encouraging and assisting their producers. "This competition provides us with the actual potential growth that is evident in the yields these outstanding producers were

able to achieve. These yields are vital in order to meet global food production targets by 2050 with an ever-increasing population," Jannie said.

Thanking South African producers for their dedication and for achieving good yields with what they have, Dr Dirk Strydom, manager: Grain Economy and Marketing at Grain SA, emphasised that South African producers, despite not having the rainfall and quality soils when compared to the rest of the world, are still achieving world-class yields. He further congratulated and paid tribute to South African small-scale farmers who, with limited resources, still produce outstanding yields.

Grain SA aims to utilise the Grow for Gold platform to give producers the opportunity for continuous learning and improvement in order to establish what can be achieved. More importantly, this platform provides South Africa's top producers with the opportunity to share their success stories and to teach others in order to duplicate these outstanding yields across the country where possible. 'The economy of grain production and optimal level of profitability still remain some of the most important factors for the organisation. This platform will delve somewhat deeper into statistics concerning the record-yielding crops to further promote the efficiency and sustainability of grain producers,' Dirk concluded.



Winners and finalists in the Grow for Gold National Yield Competition, hosted by Grain SA.

Aizena Gomes, public relations officer, Grain SA



## A HERITAGE OF CHANGE

The more things change, the more they stay the same. The same can be said of farming. Farming is still a calling - one that takes enormous courage, passion and perseverance. While the virtues of a good farmer remain timeless, the business of farming is constantly changing and evolving. Likewise, Pannar stands firm in our values and our resolve to bring you the ever-improving products and support you need to manage your input use and profitability - today, tomorrow and into the future.



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# Seed quality concerns?

Consider these steps

*Experience from the past has taught us that it is important to purchase seed from a reputable company with a proven record in South Africa.*

*It is always good to have a control to refer to. You should therefore try not to plant only one cultivar.*

However, when a producer suspects or experiences any seed problems, he can follow these steps:

**1**

Contact the seed representative and insist on an investigation on site.

**2**

Keep a record of dates and conversations.

**3**

Gather and write down as much information as possible, take photos or make videos to refer back to later.

If the problem is not resolved, do not wait too long before considering the next steps:

**A**

Contact an independent scientist to do an investigation on site. Contact the Department of Agriculture, Land Reform and Rural Development (ALRRD) if the matter is still not resolved.

**C**

A trade control investigation will be carried out in terms of the Plant Improvement Act.

**B**

For members, inform Grain SA if the seed company cannot provide the required attention and solutions for the relevant problems.

## TIPS SUPPLIED BY ALRRD

- Only buy from registered seed suppliers.
- Producers are recommended to keep record of batch code numbers.
- Labels attached to seed bags should state the name of the firm, as well as the lot number, germination group and type of seed.
- When purchasing seed, request an analysis certificate of the quality of the seed lot concerned, issued by a registered laboratory. The laboratory report shouldn't be older than three months.
- Producers are advised to retain the actual bag containing all the necessary traceable information, as well as the invoice for reference purposes.

## CONTACT PERSONS

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Corné Louw, senior economist: Inputs, Grain SA

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Seed

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**Dawie du Plessis**  
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# BREEDER AND PRODUCER

win with this seed

**C**ultivation practices and environmental conditions determine the eventual yield of a crop, but the genetics of the seed planted play a significant role. Seed is regarded as the main input when a crop is planted, because it affects the yield potential.

The adaptability of the variety concerned to the environment in which it is planted and the pureness of the variety have a direct influence on the yield.

Developers (breeders) breed specific characteristics into that variety, and this benefits the producer. To retain these characteristics, strict control must be exercised during the propagation phases. This is checked when seed is produced in accordance with the provisions of the SA Seed Certification Scheme.

## RISKS AND DISADVANTAGES

When seed is purchased from unregistered sellers, the rights of the breeder are harmed because he does not receive sufficient compensation for breeding the seed. It takes several years and millions of rands to breed and release a new variety. Without income from royalties, this financial burden becomes impossible to bear and the breeding of new varieties will be stopped – to the producer's disadvantage.

If seed is purchased from a registered seed company, the seed must comply with certain minimum requirements prescribed by the Plant Improvement Act (Act 53 of 1976). Seed from registered seed companies is monitored by the Department of Agriculture, Land Reform and Rural Development. If the undertaking sells seed that does not comply with the minimum requirements, they are guilty of an offence and can be prosecuted. Producers can also claim damages from the business.

However, the fact that a batch of seed is sold by a registered undertaking and/or that an analysis report is available for it does not mean that the seed batch itself is certified. The certification of seed involves a complete checking system from the release of the variety by the breeder, up to and including the eventual release of the seed to the producer. This occurs over several generations of propagation, which usually takes between three and four seasons.

## SANSOR

During each of the respective propagation phases full checking is carried out in that each unit for the production of seed is registered with SANSOR (SA National Seed Organisation). SANSOR first checks the origin and certifiability of the parent seed of the relevant variety before accepting it for the production of seed for certification.

A blue label bearing the country's coat of arms and the words SA CERTIFIED SEED: SANSOR is used for certified seed. Each container is also sealed with a SANSOR seal containing a unique number. The seed is then sampled by SANSOR-trained and authorised samplers and analysed by a registered seed-testing laboratory to determine the germination and physical purity.

### ADVANTAGES OF CERTIFIED SEED

- Any certified batch of seed went through more than 90 check points before it was released for sale.
- The production of the seed was monitored and checked by an independent institution.
- A complete production history is available.
- The relevant seed batch complies with set minimum requirements.

*This article first appeared in SA Graan/Grain March 2020. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za).*

# BREEDING AND TECHNOLOGY LEVIES

## promote seed market



**T**he development and introduction of levy systems with the sole aim of promoting breeding and new technology have totally changed the attitude of seed and technology companies towards the South African seed market, which is characterised by a high percentage of withholding grain that is used as seed.

### Levy on soybeans

During June 2018 the Minister of Agriculture, Land Reform and Rural Development introduced a statutory levy on soybean grain. The aim of the levy was to pay levy funds to seed companies according to their market share in the soybean seed market.

Since the soybean levy was introduced in March 2019, very good progress has been made with the release of new biotechnology and new soybean cultivars:

- ▼ The first new biotechnology that is expected offers solutions containing a combination of insect control and glyphosate tolerance (INTACTA Roundup Ready2 Pro). Limited volumes of seed should be available for the 2022 planting season.
- ▼ During the past few seasons two seed companies commenced locally with the necessary biotechnology release trials for new herbicide resistance (glufosinate). This technology will be very important in the future for managing herbicide resistance in crops.

- ▼ Quite a number of cultivars – approximately 30 – from local and foreign breeding programmes have also been released for production over the past few years.

Cultivar development, evaluation, registration and propagation is a process that takes a few years. Even cultivars released in South Africa from foreign programmes are also evaluated for two or three seasons for adaptability and performance. Then the cultivars that are successful are submitted for trials and cultivar registration before they may be sold. Seed propagation also requires a season.

The breeding and technology levy during the 2019/2020 and the 2020/2021 grain marketing seasons amounted to R65/t and R80/t respectively. The application to continue the levy involves an amount of R57/t for the 2021/2022 grain marketing season, and R55/t for the 2022/2023 grain marketing season.

### Levy on winter grains

Because wheat, barley and oats are self-pollinating crops, grain can be held back as seed and planted again in the following season. Calculations show, for example, that approximately 65% of wheat plantings are done with held-back grain. This practice means that seed companies sell relatively little seed and therefore find it difficult to justify their investment in research. This is also the fact that makes it very challenging to obtain new genetic material and, in some crops, biotechnology too.

The aim of the statutory levy on wheat and barley grain production is to provide supplementary funding for the development of new cultivars. The levy is paid over to seed companies and other institutions that do cultivar development in accordance with their commercial market share.

The statutory levy was collected and paid over during the past four years and the question can therefore be asked as to what progress has been made with breeding programmes. Several institutions were contacted and the progress was mainly the following:

- One of the local companies applied to be part of a project by the National Institute of Agricultural Botany (NAIB) in the United Kingdom that is aimed at overcoming yield-limiting factors in wheat in South Africa with the aid of modern breeding techniques.
- Some of the local companies also applied to be involved in research led by the Agricultural Research Council in Australia. The aim of this research project is to develop wheat genetics through breeding to better deal with production stress factors. A considerable financial contribution is required to become part of this type of research – which was not possible in the past.
- The local breeding programmes have come up with quite a number of new cultivars in the past few years. During 2018 12 new cultivars and during 2019 seven new cultivars were registered.
- Three years ago one of the local companies started an oats breeding programme once more. Although it is a relatively small market, new cultivars meeting grazing and grain needs will definitely make a valuable contribution.

The fact that there is now a terminal levy in South Africa that contributes to the compensation of breeders for genetics and technology has also awoken the interest of new role players. A foreign company with local interests that was not active in the local winter cereals market in the past has evaluated existing cultivars from other parts of the world in South Africa over the past few seasons. Promising cultivars were selected and the cost-intensive phase of proper extended trials in the production areas has now started.

The development of new cultivars takes a long time and companies must have the assurance of a sustainable compensation system. The terminal grain levy is a system that offers this security.

#### 1 Production areas that are suitable for new cultivars

PRODUCTION AREA	NUMBER OF CULTIVARS
Western Cape	4
Irrigation areas	10
Dryland	5

Gert Heyns, CEO, SACTA

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# Store seed correctly for future use

**A**ccording to the South African National Seed Organisation (SANSOR), the conditions under which seed is stored are a decisive factor in the yield potential of the seed. Factors that have an influence include:

## HANDLING OF SEED

Do not throw down sacks with seed, as rough handling cause the seed to burst or be damaged. Internal damage is often only visible after germination, and leads to reduced vigour and yield.

## LONGEVITY

As seeds age, they gradually lose viability. Maize and sunflower seed can be stored for two to three seasons, while the seeds of crops like soybeans and groundnuts have a shorter life.

## MOISTURE CONTENT

An increase in moisture content increases the deterioration of seed. Producers growing seed crops should dry the seed as soon as possible after the harvest and store it in sealed containers.

## STORAGE CONDITIONS

Seed vigour deteriorates more quickly when storage conditions are not optimal. Seed degradation is caused by high temperatures and high seed moisture levels in particular – which can be caused by high relative humidity in the store.

## TEMPERATURE

The storage life of seed increases as the temperature decreases. Seed should be stored at about 15 °C, but if possible rather in cold storage at approximately 4 °C.

## STORAGE OF SEED ON FARMS

Here are a few useful tips on the storage of seed on farms:

- 1 The storage facility should have a solid floor.
- 2 Seed should be packed on pallets because of a high potential for floor contamination due to water or other materials that may leak.
- 3 Seed should preferably not be stacked higher than 2 metres, as the seed at the bottom can be damaged by pressure from above.
- 4 The store should be dry and cold.
- 5 Place a storage container inside the store in which to keep the seed.
- 6 Ensure that there is air flow to eliminate high temperatures and humidity.

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**GEELMIELIES**



## 20 Store seed correctly for...

**7** Make sure that the roof does not leak to prevent possible germination and mould.

**8** Inspect the seed regularly for the presence of insects, moths and weevils.

**9** Protect the seed against rodents like rats. Liquid bait works the best in stores. Conduct regular inspections and supplement the bait when necessary.

**10** Leave a space of at least 1 metre between the seed and other substances like chemicals or fertiliser. Also leave a space open between the seed and the sides of the storage facility to promote ventilation.

**11** Keep the seed store free of dust and rubbish.

**12** Do not remove labels from containers and keep seed from the same seed lots and varieties together.

**13** Keep the seed labels until after the seed has been harvested so that it is easier to identify the problem if there is one.

**14** If seed has been stored for a long period, have it tested by a registered seed-testing laboratory before it is planted.

*This is a short version of an article by Karina Muller that appeared in Seed Focus of March 2019. It is also available online at [sagrainmag.co.za](http://sagrainmag.co.za).*

**Karina Muller; SA Graan/Grain editorial team**

## Nip incorrect seed placement in the bud

**As much as 10% of the yield can be lost because of incorrect seed placement without the producer being aware of this. Here are a few tips to limit these losses:**

**1** Maintain planters. Many planters are equipped with the best technology, but because of poor maintenance and wear, seeds are sometimes not picked up or spaced correctly, or two seeds are planted at the same time.

**2** Make sure that the correct planter speed is used. If the planter moves too quickly, the seeds can bounce and roll or stretch the interplant spacing. This will lead to fewer plants being planted per hectare, which will lead to a lower yield.

**3** Have the planter bins tested and repaired by specialists like Cerealis Precision or other agricultural businesses. Also get a mechanic to check the electronics before the season starts.

**4** Consider buying another planter to reduce pressure on the other planter(s) and to ensure that the planting is done at the right speed.

*The complete article, 'Foute met saadplasing kos ongesiens baie,' appeared in SA Graan/Grain of March 2019, on p. 50. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za)*

**Pietman Botha, agricultural consultant**



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# MAKE YOUR PLANS

## about inputs before hand



**S**uccessful crop production largely depends on the correct and proper applications of production inputs that will minimise the cost of these inputs and sustain the natural resources and the environment.

The inputs for maize production generally include the available mechanisation tools, soil tillage option, crop rotation, adapted cultivars, plant population, fertilisation, weeding, insect and disease control and harvesting. Careful planning for each of the inputs that are necessary and the applications thereafter should be considered before planting or even after last season's harvesting.

### 1 Soil tillage versus no-till

Soil tillage refers to any targeted movement of soil physical structure exerted by mechanical implement. It is the major part of the mechanisation system for crop production and the biggest cost factor in mechanisation inputs. Soil tillage properly applied can help maintain or improve soil structure and keep clean of weeds. However, soil tillage can be costly due to the vast amount of fuel energy requirement and it may cause big loss of soil moisture and wind erosion before planting.

In the past two decades, no-till which is often referred to as a major concept of conservation agriculture (CA), has become a popular farming practice for maize production. In comparison with conventional farming no-till has major advantages such as reduced energy consumption and labour cost, decreased soil disturbance and erosion, and improved soil moisture reservation. The disadvantages of no-till include higher application of and specially adapted planters.

Whether adopting no-till or conventional soil tillage, the most important part of the planting preparation will be the planter and its calibration because the productivity and hence the profitability of the maize production will largely depend on planter performance.

### 2 Technicality of the farm plan

The following information farm plan is needed before planting preparation:

- ▼ Target seed population per hectare.
- ▼ Advised amount of fertiliser application in kilograms per hectare for your soil.
- ▼ Average row distance in metres.
- ▼ Crop cultivar seed to suit your soil and target yield.

### 3 Preparation for a planter

The planter preparation can be summarised as follows:

- ▼ Thoroughly read the operational manuals and understand the recommended calibration instructions of your planter.
- ▼ Check drive gears or sprockets and know the gear ratios from drive wheel to seed and fertiliser hoppers.
- ▼ Select correct seeding plate/disk which has proper size of holes along disk circumference to give a seed drop with a minimum of doubles or skips.
- ▼ Count the number of the circumferential holes.
- ▼ Understand the adjustment mechanism for fertiliser when necessary.
- ▼ Combining drive gear ratios and number of holes on seeding disk/plate should give pre-set estimated seed population and spacing.



## Make your plans about inputs...

4

### Seed calibration in field

- Bring your planter with tractor to field side.
- Measure a 10 m distance and mark with two easily identified markers.
- Load minimum seeds into a side unit of the seed hoppers.
- Take the rubber/plastic seed pipe from the seed boot so that the seeds can be planted on soil surface and easily seen.
- Run the planter and tractor as normal planting over the 10 m distance.
- Check the furrow opening, planting depth, soil cover and soil press to satisfaction. Make adjustment if necessary.
- Count the number of the seeds planted over the 10 m distance and check any doubles or skips.
- The seed population per hectare can be calculated by the following equation:

$$N = 1\,000 \times n/d$$

Where N = planting seed population per hectare

n = seed number counted over 10 m distance

d = average row distance in metres

#### Example:

If the row distance is 0,9 m and the seeds planted are counted as 33 over 10 m, the planting seed population per hectare is calculated as:

$$N = 1\,000 \times 33/0,9 = 36\,667 \text{ plants per hectare}$$

Compare the calibrated results with your planned target seed population per hectare. If necessary, make adjustment by selecting different seed disk/plate or different gear ratio and repeat the above procedure.

5

### Fertiliser calibration in field

- Bring your tractor with planter to your field side.
- Measure a 10 m distance and identify with two easily observed markers.
- Load minimum fertiliser into a side unit of the fertiliser hoppers.
- Take the rubber/plastic fertiliser pipe from the fertiliser boot so that the fertiliser will be planted and easily collected by a container.
- Run the planter and tractor as normal planting while collecting the fertiliser by a container over this 10 m distance.
- Get the weight of the fertiliser planted in grams over the 10 m distance.
- The fertiliser amount applied can be calculated by the following equation:

$$W = w/d$$

Where W = fertiliser applied in kilograms per hectare

w = fertiliser weight in grams planted over 10 m distance

d = row distance in metres

#### Example:

If the row distance is 0,9 m and the fertiliser planted is collected and weighted as 140 g over 10 m, the fertiliser to be applied per hectare is calculated as:

$$W = 140/0,9 = 155,6 \text{ kg per hectare}$$

Compare the calibrated results with your planned target fertiliser application in kilograms per hectare. If necessary, make adjustment and repeat the above procedure.

For more information, contact **Dr Tingmin Yu** at [YuT@arc.agric.za](mailto:YuT@arc.agric.za) or **012 8424090**.

**Dr Tingmin Yu and Johan van Biljon,**  
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	<p>Rapid Spill Response  <a href="mailto:spark@rapidspillresponse.com">spark@rapidspillresponse.com</a>                      080 017 2743</p>

# DIESEL REBATE: Dos and don'ts

It is of critical importance for producers to keep strict record of their diesel consumption. The Customs and Excise Act (No. 91 of 1964) requires, among other things, that a logbook must be kept of how diesel was consumed.

Agri SA and Grain SA commented on what a logbook should look like, but have received no official logbook from SARS as yet. In the meantime, producers are recommended to keep the minimum information required by law.

Here are a few tips on recording your information:

- ▼ Date on which the diesel was added.
- ▼ Quantity of diesel added.
- ▼ Description of the vehicle.
- ▼ Timer or kilometre reading before and after use.
- ▼ Reason for which diesel was consumed. (It is important to check which activities qualify for the diesel rebate.) Scan the QR code and scroll down to part 3. (It is in Schedule 6, part 3.).



### Other practical hints:

- ▼ Claim the diesel refund according to usage and not purchases.
- ▼ Be as specific and prescriptive as possible about the activities. 'General' is not accepted.
- ▼ In particular, keep proper records of the activities of trucks and vehicles using tarred roads.
- ▼ Clearly indicate private use.
- ▼ Transporting labour does not qualify.

Scan these QR codes for examples of logbooks supplied by SARS:



Corné Louw, senior economist: Inputs, Grain SA



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<b>HEAD OFFICE</b>	Sales - Limpopo, Gauteng, North West, Free State Sales - Mpumalanga, KwaZulu-Natal Sales - Northern Cape, Eastern Cape, Western Cape Product & Marketing CNHI Capital - Financing	Eduan Booyens Christopher Slabbert Quintus Smit Jaco du Preez Antonie Schutte	071 871 8163 066 484 8759 082 524 7397 082 524 8898 082 819 8078
<b>LIMPOPO</b>	Janpret Trekkers Waterberg New Holland Laeveld Trekkers	Giel Jansen Leon Venter Henk Bezuidenhout	015 293 0331 014 736 4364 082 377 1933
<b>GAUTENG</b>	Agriquip Dicla Farm & Seed	Dewald Janse van Rensburg Megan Aspden	082 447 1019 011 662 1371
<b>NORTH WEST</b>	NWK JTR Machinery	Johan Janse van Rensburg Riaan Muller	072 123 5684 053 050 0831
<b>FREE STATE</b>	BR Dienste Kroon New Holland JTR Machinery	Reinhardt Grobler Nico Lategan HP Roos	083 632 4631 083 316 0561 072 241 2120
<b>MPUMALANGA</b>	Laeveld Trekkers TWK Agri	Henk Bezuidenhout Johan Bender	082 377 1933 082 550 5595
<b>KWAZULU-NATAL</b>	Midlands Agri Ritchie Farm Equipment TWK Agri BR Dienste South Coast New Holland	Louis Fourie Paul Mannix Bennie Parsons Reinhardt Grobler Peter Holmes	072 869 5903 082 571 6559 033 346 1335 036 448 2481 082 715 0971
<b>NORTHERN CAPE</b>	Upington Trekkers	Yvon Heyns	054 332 5691
<b>EASTERN CAPE</b>	RCL Trekkerdienste Universal Equipment	Louwrens Bezuidenhout Riaan Claassen	042 283 0012 041 453 1810
<b>WESTERN CAPE</b>	Kaap Agri Sentraal Suid Co-op	Johan de Lange Henk de Beer	083 286 2507 028 514 8609
<b>NAMIBIA</b>	Africa Commercial Vehicles	Christian Koch	+264 81 145 6664
<b>BOTSWANA</b>	NWK	Johan Janse van Rensburg	072 123 5684
<b>LESOTHO</b>	BR Dienste	Reinhardt Grobler	083 632 4631
<b>SWAZILAND</b>	Laeveld Trekkers	Henk Bezuidenhout	082 377 1933
<b>MOZAMBIQUE</b>	MTM	Alwyn Malan	+258 84 735 7315



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# RAIN CALENDAR 2021

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
JANUARY																		
FEBRUARY																		
MARCH																		
APRIL																		
MAY																		
JUNE																		
JULY																		
AUGUST																		
SEPTEMBER																		
OCTOBER																		
NOVEMBER																		
DECEMBER																		
YEAR TOTAL																		

JANUARY						
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25	26	27	28	29	30	31

FEBRUARY						
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AUGUST						
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER						
M	T	W	T	F	S	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

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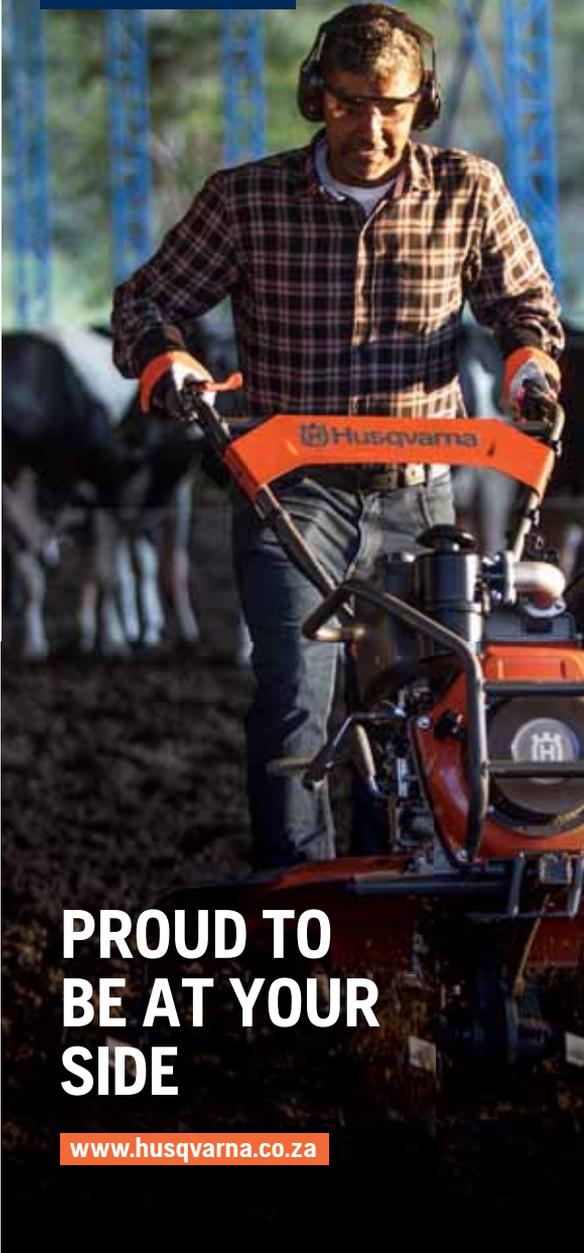
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# REPAIRS – DO YOUR SUMS LIKE THIS

**W**hen it comes to the cultivation of crops, the cost of implements and tools is one of the most important aspects to take into account. How much must be budgeted for diesel and repairs? Must the same be budgeted for every crop?

Because crops require different types of tillage, the amount of fuel consumed per hectare differs. However, when it comes to the cost of repairs, there is a definite link between the amount of diesel consumed and the repairs required. The more diesel that is consumed, the more repairs are necessary.

Several methods can be used to determine and allocate the cost of repairs. By determining the relationship between fuel and repairs over time and analysing it meaningfully the repairs can be predicted to a reasonable extent. Fuel consumption is affected by the difference in each area and the soil, cultivation windows and topography on each farm. The brand and age of tractors will also affect the repairs. It is not necessarily true that old tractors require more repairs than new ones. Doing the maintenance and/or repairs yourself will also make a major difference to the total cost of repairs.

## RULES OF THUMB

**There are also rules of thumb against which you can measure these repairs.**

- ▶ On the eastern Highveld repairs usually cost a little more than the diesel consumption due to the higher kilowatt per hectare (roughly 1 kW/ha) and the topography of the fields. An additional 10% more than the fuel can usually be budgeted for.
- ▶ On the plains of the Free State and North West fewer kilowatts per hectare are used (approximately 0,75 kW/ha) purely because the cultivation window is bigger. Here the type of soil also plays a role and the diesel as percentage of repairs is usually equal.

Another rule of thumb is to allocate 1% of the price of the new tractor to repairs and then allocate this to the crops according to the amount of diesel consumed per hectare per crop.

A lot of research has been conducted on the repairs to tractors and equipment. Agricultural engineers and agricultural economists compiled the following benchmarks some time ago to determine the repairs and maintenance of tractors and equipment.

### The main cost drivers are:

- ▶ The average investment or the capital investment in the new tractors or equipment
- ▶ Expected useful life of the tractors and equipment
- ▶ Expected annual use
- ▶ A repair percentage over the useful life of the tractors and equipment

In general, the life expectancy of a tractor is twelve years, and that of most other implements 10 years. A driver to a great extent determines the amount of diesel required by and the breakages of equipment. By training these persons properly and checking on them constantly, the diesel consumption and repairs can be kept to the benchmarks. With the electronic equipment installed in tractors these days good control is possible and equipment can therefore last considerably longer.

For the full article by Pietman Botha containing further information on the expected useful life of tractors and implements, the cost and working speed of four-wheel-drive tractors and a comparison between the costs of the different tractors, scan the QR code.



Pietman Botha, agricultural consultant

## DEUTZ-FAHR HANDELAARSNETWERK

### KZN

Palm Court	Port Shepstone	039 687 7965	sales@palmcourtgarage.com
DA Tractors	Bergville	036 448 1780	sales@datractors.co.za

### Limpopo

Bekstap Puma motors	Grobiersdal	013 262 2276	somerhoek@gmail.com
Sanica Auto	Polokwane	017 826 2321	martin@sanica.co.za
JMB	Hoedspruit	087 806 2084	meyer@bsfhoedspruit.com

### Mpumalanga

Jp Boeredienste	Volksrust	017 735 4818	stephan@jpboeredienste.co.za
Obaro	Middelburg	013 590 7040	davidm@obaro.co.za
Just Machine Hire	Nelspruit	013 741 2533	info@jmh-nt.co.za
Malalane Agri	Malalane	013 591 5541	rgrobler@maltoy.co.za

### Noordwes

Obaro	Brits	012 252 3393	faanrvv@obaro.co.za
Agri Track	Lichtenburg	018 632 0362	anton@agri-track.co.za
Rudolph Agri	Ottosdal	018 571 0209	wimpie.visagie0@gmail.com

### Noord-Kaap

Dege Trekkers	Upington	054 331 1276	cobus@degetrekkers.co.za
Nutmech	Hartswater	053 474 1567	gerrit@nutmech.co.za
NC Farming Supplies	Modderivier	082 992 0276	albie@ncfarming.co.za

### Oos-Kaap

Tractor World	Oos-Londen	043 731 2100	isansom@ronnies.co.za
Kimjer Motors	Burgersdorp	051 653 1835	technical@kimjer.co.za

### Vrystaat

Visser Agri	Bethlehem	082 550 0543	naude@visseragri.co.za
Vrede Agri	Vrede	073 847 2962	timo@vredeagri.co.za
Best Bier SA	Bloemfontein	051 432 0342	gouws@bestbiersa.co.za
Mega Agri	Bultfontein	051 853 1009	chriswhappa@yahoo.com
Mega Agri	Bloemhof	051 853 1009	chriswhappa@yahoo.com
Oelofse Trekkers	Welkom	057 396 4882	joelofse@otifs.co.za
F+H Hersteldienste	Bothaville	056 515 3830	f_hherstel@elkomsa.net

### Wes-Kaap

Trekkers en Meer	Cianwilliam	027 482 1084	parte@trekkersenmeer.co.za
DN Dienste Trekkers	Stellenbosch	021 886 9013	sales@eikestadagri.co.za
KH Trekkerdienste	Rawsonville	021 886 9013	khtrekkers@vodamail.co.za
Overberg Agri	Bredasdorp	028 425 5859	janhw@overbergagri.co.za
Overberg Agri	Caledon	028 214 3849	rayr@overbergagri.co.za
Overberg Agri	Moorreesburg	022 433 8334	ruani@overbergagri.co.za
DC Tractors	George	045 839 4788	deon@dctractors.co.za
KH Trekkerdienste	Robertson	021 886 9013	khtrekkers@vodamail.co.za

**\*Deutz-Fahr- en SAME-trekkeronderdele is ook beskikbaar deur jou naaste Deutz-Fahr-handelaar.**





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*Implements and Equipment*

# Have your say on POOR after-sales service

**M**embers of Grain SA who receive unsatisfactory after-sales service from mechanisation dealers, can report it to **Corné Louw**, senior economist: Inputs, Grain SA at **086 004 7246** or send an email to **corne@grainsa.co.za**.

**Corné Louw, senior economist, Inputs, Grain SA**

*Grain SA/Sasol photo competition*



## GOOD QUALITY DIESEL is 1st prize

**T**here are many new fuel distributors in the market these days, usually offering very competitive prices. However, producers must ensure that the quality of this diesel meets specifications.

Several sources can be used to test diesel quality. Producers who suspect diesel quality problems, especially in cases of possible diesel contamination, can contact the South African Revenue Service (SARS) for testing. Contact **Russell Allison** on **021 943 7778** or via email at **rallison@sars.gov.za**

Producers who wish to test the diesel themselves, can visit the **www.dieseltesting.co.za** website or contact **087 575 3568** for the purchase of test instruments.

*Diesel mini testing kit*



Another option would be to have the diesel tested in a laboratory. The following laboratories have been used by members of Grain SA:

**WEARCHECK**  
011 392 6322  
[www.wearcheck.co.za](http://www.wearcheck.co.za)  
[support@wearcheck.co.za](mailto:support@wearcheck.co.za)

**TRIBOLOGY LABORATORY**  
012 420 2475  
[Philip.devaal@up.ac.za](mailto:Philip.devaal@up.ac.za)

**Corné Louw, senior economist: Inputs, Grain SA**



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# FERTILISER

## CONTACTS

### INSTITUTION

**Agri Laboratory Association of South Africa  
(AgriLASA)**  
*info@agrilasa.co.za*  
076 833 1752

**Fertilizer Association of Southern Africa (Fertasa)**  
*general@fertasa.co.za*  
012 349 1450



# MONITORING indicates IMPROVED QUALITY over years

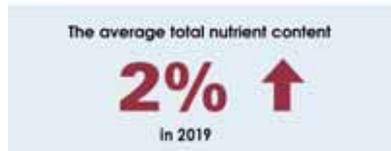
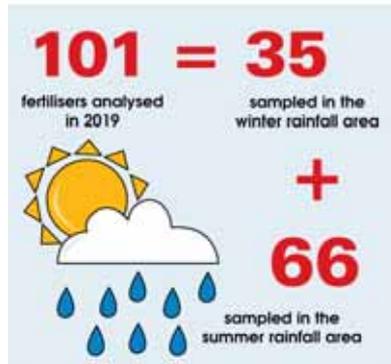
**A** memorandum of understanding for the funding and management of the fertiliser and lime quality monitoring project was entered into by and between the Department of Agriculture, Land Reform and Rural Development, Fertasa (Fertilizer Association of Southern Africa), Grain SA and the Sasol Agricultural Trust.

The aim was to establish whether liming material and fertiliser quality are maintained according to the regulations of the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No. 36 of 1947).

Of the 101 fertilisers (from 16 fertiliser companies) sampled, 14% were deficient in one or more nutrients. All of the 100 nitrogen-containing fertilisers were compliant. 78 fertilisers contained phosphorus, of which 8% were deficient. 4% of the 59 potassium-containing fertilisers were deficient. 75 fertilisers contained sulphur, of which 4% were deficient. One of the seven magnesium-containing fertilisers was deficient, while none of the 20 calcium-containing fertilisers were deficient.

56 fertilisers contained zinc, of which 13% were deficient. 13 fertilisers contained boron, six copper, six manganese, one molybdenum and three iron – all in compliant quantities.

The number of fertilisers sampled and companies involved declined from the 2017 to the 2019 investigation (**Table 1**). The percentage of fertiliser with deficiencies declined over this period from 20% to 14%, with a trend of less deficiencies of nitrogen, sulphur, boron and total nutrients. In contrast, however, the percentage deficient phosphorus- and potassium-containing fertilisers had an increasing trend.



## 1 Comparison of fertiliser quality.

RESULTS	2017	2018	2019
Number of companies involved	24	17	16
Number of fertilisers sampled	134	98	101
Deficient fertiliser (%)	20	16	14
<b>TOTAL NUTRIENTS</b>			
Number of fertilisers	122	79	87
Deficient fertilisers (%)	3	0	0
Mean absolute deviation from registered content (%)	4	4	3

**Over the three years of investigation, the following can be noted:**

- 1** The number of fertilisers sampled and number of companies involved declined.
- 2** There was a decline in the total percentage of fertilisers with deficiencies.
- 3** Individual nutrients: Nitrogen, sulphur and boron deficiencies declined, while phosphorus and potassium deficiencies increased. Zinc deficiencies declined slightly. Total nutrient deficiencies declined.
- 4** The mean absolute deviation of nutrient content from its registered content declined for nitrogen, phosphorus and potassium.

One dolomitic lime, one gypsum and five calcitic limes were sampled. Five of the six limes did not pass the 1,7 mm-sieve test – two of which also failed the 0,25 mm-sieve test. Apart from a failed sieve test, one lime also had a calcium carbonate equivalent value below the required threshold. The gypsum did not comply with the required two-sieve test requirements.

*This article first appeared in SA Graan/Grain in July 2020. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za)*

## Summary of 2019 results

Summarising statistics on the number of fertilisers analysed and the number of companies involved for 2019 are shown in the infographics. As indicated, 35% of fertilisers were sampled in the winter rainfall area and 65% in the summer rainfall area. Of the 101 fertilisers, 84 were analysed once, one twice and 16 were analysed for a third time to reach a conclusion.

Three fertilisers (9%) from the winter rainfall area had deficiencies, each in only one nutrient. Of the eleven deficient fertilisers (17%) in the summer rainfall area, six were deficient in one, three in two and two in three nutrients.

Apart from the instances of nutrient deficiencies in the fertiliser, the fertiliser industry has managed to achieve some gains. The average total nutrient content (nitrogen plus phosphorus plus potassium) was 2% higher in 2019 than the average registered content. The nutrient content accuracy also improved for nitrogen, phosphorus and potassium as indicated by the declining absolute deviation.

**Corné Louw (Grain SA), Dr André Nel  
and William Deale (Independent agronomists)**



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# How to go about FERTILISER COMPLAINTS

Fertiliser is one of a grain producer's most expensive and important inputs. Follow these steps if you suspect a problem with the quality of your fertiliser:

**1** Contact the fertiliser representative from whom you bought the fertiliser and insist on an investigation on site.

**2** Also keep a record of the dates and conversations.

**3** Gather and write down as much information as possible, take photos or make videos to refer back to later.

**4** Try to retain as many sealed bags as possible in case samples have to be taken at a later stage.

**If the problem is not resolved, follow the steps below (do not wait too long):**

**1** Contact an independent scientist to do an investigation on site.

**2** Inform Grain SA if the fertiliser company cannot provide the required attention and solutions for the relevant problems.

**3** Producers are recommended to test their fertiliser independently.

**4** It is extremely important for fertiliser samples to be taken correctly.

**5** Fertiliser samples for testing fertiliser quality have to be taken in collaboration with the fertiliser company.

Producers can contact Grain SA, FERTASA or **William Deale** directly in this regard to take and analyse samples for quality testing. William's contact details are **083 947 2389** or [wideale@gmail.com](mailto:wideale@gmail.com).

Members can take up unresolved disputes with Grain SA or lodge a complaint directly with the Registrar of Act no. 36 of 1947.

Corné Louw, senior economist: Inputs, Grain SA

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WORD OM 180 000  
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KONVENSONELE  
STIKSTOF

**18.5** VRAGMOTORS MET  
MBFi SE STIKSTOFBINDING-  
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KONVENSONELE  
STIKSTOF  
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Vrystaat  
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# This **INVISIBLE THREAT**

## is devouring grain crops

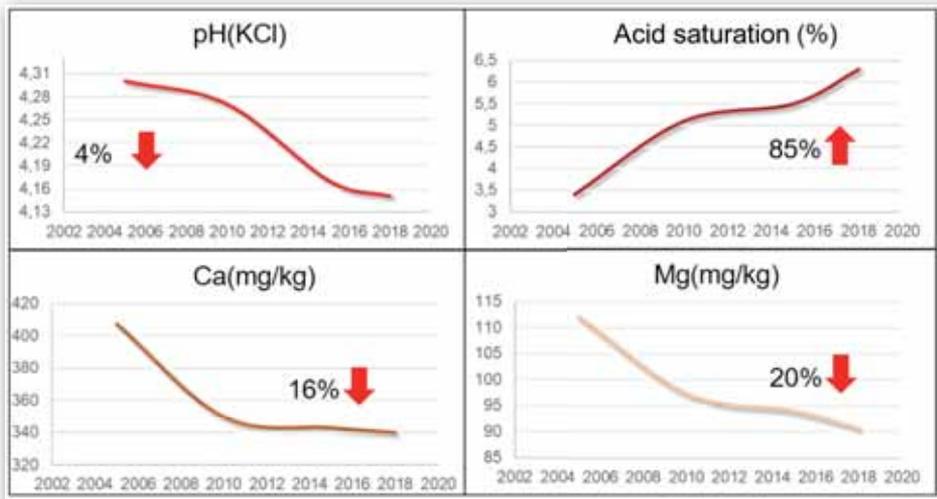
**S**oil acidification causes grain losses every year and the problem is worsening daily. We can therefore rightly ask what has led to this situation and what today's grain producer can do to prevent these losses.

Fertasa, in collaboration with Grain SA, has written a series of articles on the causes, pitfalls and influence of and solutions for soil acidity. The first article, 'Dié onsigbare bedreiging vreet aan graanoeste', appeared in the July 2020 issue of *SA Graan/Grain* and is available on [www.sagrainmag.co.za](http://www.sagrainmag.co.za). The series consists of twelve articles that have been published in the magazine and posted on the website every month since the July edition. This article summarises the information that appeared in some of the articles.

### SOIL ANALYSES CAUSE CONCERN

Analyses of more than 100 000 samples drawn in the Free State over the past 16 years and analysed at the Chemtech laboratory in Sasolburg found that the pH(KCl) in all the topsoil samples had declined by 4%. **Graph 1.**

**Graph 1: Change in soil analysis from 2002 to 2018.**



It was also found that the acid saturation percentage had increased by a shocking 85% over the same period. Related cations like calcium (Ca) and magnesium (Mg) were analysed further and a 16% decline in the Ca levels and a 20% decline in the Mg levels were found.

The study (data from 2012 to 2019, 130 000 samples) also showed that 26% of the pH(KCl) values of the Free State's topsoils and 27% of North West's topsoils were already between 4,0 and 4,5. Furthermore, 6% of sandy topsoils in the Free State and 5% of the topsoils in North West already had pH(KCl) values lower than 4,0.

The study also indicated that 31% of the subsoils in the Free State and 22% of the subsoils in North West currently have pH(KCl) values of between 4 and 4,5, and a further 13% and 6% respectively had values below 4.



## ◀ This invisible threat...

The primary causes of the decline in soil acidity parameters like pH and percentage of acid saturation are:

- ▶ The injudicious use of nitrogen sources in particular.
- ▶ Increased maize yield targets without the essential liming programme have taken their toll over time.
- ▶ The decrease in soil pH(KCl) levels with an accompanying increase in the percentage of acid saturation and a decrease in calcium and magnesium are evidence of this.
- ▶ Producers who want to cut costs often start with liming – a major mistake that is made every day.

### CONSEQUENCES OF A LOWER PH(KCL)

- ▶ A crop loss of 10% can be expected in maize at soil pH(KCl) levels of between 4,5 and 4.
- ▶ A further 30% crop loss at soil pH(KCl) levels of lower than 4 can be expected.
- ▶ At an average yield of 5,35 t/ha in the Free State and 4,35 t/ha in North West this means that the calculated loss in maize grains as a result of soil acidity can be conservatively calculated as more than 330 000 tons per year in the Free State and almost 120 000 tons per year in North West. The loss in monetary value at a maize price of R2 200 per ton can be calculated at almost R1 billion per year.

### IMPORTANT ACTIONS TO TAKE

It is sound practice to take samples after every third harvest. Conduct soil analyses regularly – at least once every three years in dryland conditions. More regular monitoring will be essential under irrigation.

The interpretation of the analyses is just as important. Make sure that a specialist agriculturalist studies the results and draws up scientifically based fertilising plans that are aimed at optimum efficiency.

### DETERMINING LIME NEEDS

There are several methods to determine the lime need of soils. Some of the methods like the Natal method, the Eksteen method developed in the Western Cape, and the pH-% clay tables are given in Fertasa's fertiliser manual.

Scan the QR code to view the method using pH indicator liquid.



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082 757 2879  
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**Casper Gous**, Worcester/Brede River 082 452 7251

## 48 This invisible threat...

There are further actions that can be taken to ensure that the lime need is determined correctly:

### EFFECTIVE SOIL SAMPLING

**1** This must be followed up by a further investigation by digging profile holes to establish whether root growth has been harmed or hampered in any way. The entire soil profile should be inspected, sampled and analysed.

**2** Some researchers use a steel plate of approximately 60 cm x 10 cm with six square slots of 10 cm x 10 cm x 10 cm, for example. The plate with the containers is then hammered into the side of a profile hole or pressed into the soil with a hydraulic press. In this way, six samples can be taken at a time.

**3** An analysis of these samples provides a lot of insight into the distribution not only of nutrients, but also of the soil acidity. Although this method provides a clear picture of the distribution of soil acidity, the soil samples first have to be analysed. They cannot be seen in the veld.

**4** Probably the most visually effective method of illustrating the pH level on the farm in the different zones in the soil is used in Australia, namely to spray universal pH indicator liquid directly on the soil. If the soil gets a greenish colour, it indicates a favourable pH. Yellow to orange soil indicates an unfavourable pH that limits root growth. This cannot be identified if only the topsoil is sampled. Scan the QR code on page 48 to view the method.

**5** The actual pH will naturally have to be verified through an analysis. This practical method can also clearly reflect the effectiveness of working lime deeply into the soil. However, this method cannot be used where the soil has a strong colour.

Effective liming of soil can be done only if the soil profile has been thoroughly inspected and specific layers of the soil have been analysed. The inspection methods discussed in this article can definitely contribute to placing the producer in control of liming practices on the farm.

### Soil acidity is no longer invisible!

*The series of articles on soil acidity can be found in SA Graan/Grain. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za)*

FERTASA, soil acidity working group



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# AGRICULTURAL LIME AND GYPSUM RESOURCES IN SOUTH AFRICA

## CALCITE

CENTRAL				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Barkley West	Ulco	H. Pistorius & Co	012 342 1075	D
Barkley West	Ulco	H. Pistorius & Co	012 342 1075	D
Barkley West	Ulco	Kalkor	011 721 3141	D
Barkley West	Ulco	LimeCrop	076 575 8476	D
Barkley West	Ulco	SA Lime & Gypsum	086 010 3515	D
Buhrmansdrif	Buhrmansdrif	Bastion Lime (PTY) LTD	018 464 7820	O
Buhrmansdrif	Buhrmansdrif	Kalkor	011 721 3141	D
Buhrmansdrif	Buhrmansdrif	LimeCrop	076 575 8476	D
Buhrmansdrif	Prolime	SA Lime & Gypsum	086 010 3515	O
Buhrmansdrif	Prolime Precision Lime	SA Lime & Gypsum	086 010 3515	O
Christiana	Britten	Bastion Lime (PTY) LTD	018 464 7820	O
Christiana	Britten	Kalkor	011 721 3141	D
Christiana	Britten	LimeCrop	076 575 8476	D
Daniëlskuil	Daniëlskuil	H. Pistorius & Co	012 342 1075	D
Daniëlskuil	Daniëlskuil	Kalkor	011 721 3141	D
Daniëlskuil	Daniëlskuil	LimeCrop	076 575 8476	D
Immerpan	Inca	H. Pistorius & Co	012 342 1075	D
Immerpan	Leo	H. Pistorius & Co	012 342 1075	D
Immerpan	Inca	LimeCrop	076 575 8476	D
Immerpan	Inca	SA Lime & Gypsum	086 010 3515	D
Mandini	Tugela Calcitop	SA Lime & Gypsum	086 010 3515	O
Marble Hall	Marble Hall	Limecor	079 107 5463	O
Marble Hall	Kalsiet	SA Lime & Gypsum	086 010 3515	D
Ngodwana	Micro fine calcite	H. Pistorius & Co	012 342 1075	O
Ngodwana	Ngodwana	Kalkor	011 721 3141	D
Northam	Calcitic Agricultural Lime	Agrilime	014 536 9900	O
Northam	Agri-Lime	Kalkor	011 721 3141	D
Northam	Northam	LimeCrop	076 575 8476	D
Northam	Agri-Lime	SA Lime & Gypsum	086 010 3515	D
Olifantsfontein	Olifantsfontein Calcite	SA Lime & Gypsum	086 010 3515	O
Port Shepstone	Idwala Kulu CAG	Kalkor	011 721 3141	D
Port Shepstone	Idwala Kulu CAG	SA Lime & Gypsum	086 010 3515	D
Port Shepstone	Rossmin Calcite	SA Lime & Gypsum	086 010 3515	D
Roedtan	Inca	Kalkor	011 721 3141	D
Roedtan	Inca	PBD Boeredienste	015 667 0994	O
Vereeniging	Slaked calcite	Kalkor	011 721 3141	D
Witbank	Hiqua	H. Pistorius & Co	012 342 1075	O
Witbank	Hiqua	Kalkor	011 721 3141	D
Witbank	Hiqua	LimeCrop	076 575 8476	D
Zeerust	Prolime Precision Lime	SA Lime & Gypsum	086 010 3515	O
Zeerust	Prolime Calcitop	SA Lime & Gypsum	086 010 3515	O



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## 55 Agricultural lime and gypsum resources...

### CALCITE (CONTINUED)

CAPE				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Albertinia	Resiesbaan	Aglime	028 713 1508	O
Bredasdorp	Karsrivier	Aglime	028 713 1508	O
Vredendal	Vredendal	Cape Lime	021 493 2933	O
Bredasdorp	Aghydrate	LimeCrop	076 575 8476	D
Bredasdorp	Bredasdorp	LimeCrop	076 575 8476	D
Moorreesburg	Titan Lime	LimeCrop	076 575 8476	D
Vredendal	Vredendal	LimeCrop	076 575 8476	D
Jeffreys Bay	Loerie	Njati Holdings	011 721 3156	O
Bredasdorp	Bredasdorp	P&B Kalkwerke	028 424 1157	O
Albertinia	Resiesbaan	SA Lime & Gypsum	086 010 3515	D
Bredasdorp	Aghydrate	SA Lime & Gypsum	086 010 3515	D
Bredasdorp	Bredasdorp	SA Lime & Gypsum	086 010 3515	D
Moorreesburg	Titan Lime	SA Lime & Gypsum	086 010 3515	O
Vredendal	Vredendal Calcite	SA Lime & Gypsum	086 010 3515	D
Saldanha	Saldanha	VDM	022 714 4212	O

### DOLOMITE

CENTRAL				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Christiana	Britten	Bastion Lime (PTY) LTD	018 464 7820	O
Christiana	Britten	Kalkor	011 721 3141	D
Christiana	Britten	LimeCrop	076 575 8476	D
Clayville	Clayville Soil Ameliorant	H. Pistorius & Co	012 342 1075	O
Immerpan	Leo Dolomite	H. Pistorius & Co	012 342 1075	O
Immerpan	Leo	Kalkor	011 721 3141	D
Immerpan	Leo Dolomite	LimeCrop	076 575 8476	D
Marble Hall	Marble Hall	Limecor	079 107 5463	O
Meyerton	Limecor	Kalkor	011 721 3141	D
Meyerton	Meyerton	Limecor	079 107 5463	O
Meyerton	Meyerton	LimeCrop	076 575 8476	D
Meyerton	Meyerton	SA Lime & Gypsum	086 010 3515	D
Middelburg	Calmasil	H. Pistorius & Co	012 342 1075	D
Middelburg	Calmasil	Kalkor	011 721 3141	D
Middelburg	Calmasil	LimeCrop	076 575 8476	D
Middelburg	Calmasil	PBD Boeredienste	082 800 0055	O
Middelburg	Calmasil	SA Lime & Gypsum	086 010 3515	D
Middelburg	Pro-Gyp Dolotop	SA Lime & Gypsum	086 010 3515	O
Midrand	Chloorkop	LimeCrop	076 575 8476	D
NewCastle	New Castle	H. Pistorius & Co	012 342 1075	O
Olifantsfontein	Olifantsfontein Dolomite	LimeCrop	076 575 8476	D

CENTRAL				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Olifantsfontein	Olifantsfontein Dolomite	SA Lime & Gypsum	086 010 3515	O
Olifantsfontein	Olifantsfontein Dolotop	SA Lime & Gypsum	086 010 3515	O
Orkney	Vaalbrug	LimeCrop	076 575 8476	D
Orkney	Vaalbrug	PBD Boeredienste	018 473 0830	O
Port Shepstone	Idwala Kulu DAG	Kalkor	011 721 3141	D
Port Shepstone	Idwala Kulu DAG	SA Lime & Gypsum	086 010 3515	D
Port Shepstone	Rossmin Dolomite	SA Lime & Gypsum	086 010 3515	D
Pretoria	Mooiplaas Micro Fine Dolomite	H. Pistorius & Co	012 342 1075	D
Pretoria	Mooiplaas	Kalkor	011 721 3141	D
Pretoria	Mooiplaas	Kalkor	011 721 3141	D
Pretoria	Mooiplaas Micro Fine Dolomite	LimeCrop	076 575 8476	D
Pretoria	Mooiplaas	SA Lime & Gypsum	086 010 3515	D
Springs	Atoll	Kalkor	011 721 3141	D
Springs	Zimbiwa	Kalkor	011 721 3141	D
Springs	Atoll	LimeCrop	076 575 8476	D
Springs	Atoll	SA Lime & Gypsum	086 010 3515	D
Zeerust	Marico	Bastion Lime (PTY) LTD	018 464 7820	O
Zeerust	Marico	Kalkor	011 721 3141	D
Zeerust	Marico	LimeCrop	076 575 8476	D
Zeerust	Ottoshoop Dolomite	SA Lime & Gypsum	086 010 3515	O
Zeerust	Ottoshoop Dolotop	SA Lime & Gypsum	086 010 3515	O

CAPE				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Moorreesburg	Bridgetown	LimeCrop	076 575 8476	D
Moorreesburg	Bridgetown	SA Lime & Gypsum	086 010 3515	D
Moorreesburg	Titan Dolomite 100	SA Lime & Gypsum	086 010 3515	O
Moorreesburg	Bridgetown	SPH	021 527 5200	O
Robertson	Langvlei	Cape Lime	021 493 2933	O
Robertson	Langvlei	LimeCrop	076 575 8476	D
Robertson	Langvlei	SA Lime & Gypsum	086 010 3515	D
Vredenburg	Calmag	SA Lime & Gypsum	086 010 3515	O
Vredendal	Vredendal	Cape Lime	021 493 2933	O
Vredendal	Vredendal	LimeCrop	076 575 8476	D
Vredendal	Vredendal	SA Lime & Gypsum	086 010 3515	D

## GYPSUM AND MAGNESIUM

CENTRAL				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Christiana	Britten	Bastion Lime (PTY) LTD	018 464 7820	O
Daniëlskuil	Daniëlskuil	Kalkor	011 721 3141	D
Middelburg	Middelburg	H. Pistorius & Co	012 342 1075	D
Middelburg	Middelburg	Kalkor	011 721 3141	D
Middelburg	Pro-Gyp	SA Lime & Gypsum	086 010 3515	O



## Agricultural lime and gypsum resources...

### GYPSUM AND MAGNESIUM (CONTINUED)

CENTRAL				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Middelburg	Middelburg	LimeCrop	076 575 8476	D
Midrand	Chlookop	H. Pistorius & Co	012 342 1075	D
Midrand	Chlookop	Kalkor	011 721 3141	D
Midrand	Midrand	LimeCrop	076 575 8476	D
Midrand	Chlookop	SA Lime & Gypsum	086 010 3515	D
Olifantsfontein	Chlookop	SA Lime & Gypsum	086 010 3515	O
Phalaborwa	Phalaborwa	H. Pistorius & Co	012 342 1075	D
Phalaborwa	Phalaborwa	Kalkor	011 721 3141	D
Phalaborwa	Phalaborwa	LimeCrop	076 575 8476	D
Potchefstroom	Potchefstroom	Kalkor	011 721 3141	D
Potchefstroom	Potchefstroom	LimeCrop	076 575 8476	D
Richards Bay	Richards Bay Gypsum	Kalkor	011 721 3141	D
Richards Bay	Richards Bay Gypsum	LimeCrop	076 575 8476	D
Richards Bay	Richards Bay	SA Lime & Gypsum	086 010 3515	D
Rustenburg	Phokeng	H. Pistorius & Co	012 342 1075	D
Rustenburg	Phokeng	Kalkor	011 721 3141	D
Rustenburg	Rustenburg	LimeCrop	076 575 8476	D
Rustenburg	Phokeng	SA Lime & Gypsum	086 010 3515	D

CAPE				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Ceres	Kolkiesrivier	LimeCrop	076 575 8476	D
Kanaries	Titan Gypsum	SA Lime & Gypsum	086 010 3515	O
Moorreesburg	Titan Gypsum	LimeCrop	076 575 8476	D
Moorreesburg	Titan Gypsum	SA Lime & Gypsum	086 010 3515	O
Vanrhynsdorp	Vanrhynsdorp	LimeCrop	076 575 8476	D
Vanrhynsdorp	Vanrhynsdorp	SA Lime & Gypsum	086 010 3515	D
Yzerfontein	Yzerfontein	LimeCrop	076 575 8476	D
Yzerfontein	Yzerfontein	SA Lime & Gypsum	086 010 3515	D

FEED LIME				OWNER (O) DISTRIBUTOR (D)
LOCATION	NAME	COMPANY	NUMBER	
Bredasdorp	Feed lime	P&B Kalkwerke	028 424 1157	O
Buhrmansdrif	Buhrmansdrif	Bastion Lime (PTY) LTD	018 464 7820	O
Buhrmansdrif	Buhrmansdrif	LimeCrop	076 575 8476	D
Buhrmansdrif	Prolime Powder	SA Lime & Gypsum	086 010 3515	O
Buhrmansdrif	Prolime Grit 2-4 mm	SA Lime & Gypsum	086 010 3515	O
Northam	Amorphous feed lime	Agrilime	014 536 9900	O
Vredendal	Vredendal	Cape Lime	021 493 2933	O

Petru Fourie, research co-ordinator and production cost analyst, Grain SA



# PEST CONTROL

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<p>Griffon Poison Information Centre  <i>neshher@tiscali.co.za</i>                      082 446 8946</p>	<p>Griffon Poison Information Centre  <i>neshher@tiscali.co.za</i>                      082 446 8946</p>
<p>Registrar: Act no. 36 of 1947  <i>MalutaM@nda.agric.za</i>                      012 319 7303</p>	<p>South African Petroleum Industry Association (SAPIA)  <i>info@sapia.co.za</i></p>
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# COVER YOUR RISK

## when purchasing input resources

**T**he risk of using untested input resources and the buying of input resources from unknown distributors are traps into which producers fall every season. Here are a few good tips for purchasing inputs.

### Very important suggestions for purchasing and using inputs:

- ▼ Make sure that the supplier is a recognised company with a proven record.
- ▼ Ensure as far as possible that all recommendations are provided in writing and store them safely.
- ▼ Try to keep a record of all purchases as far as possible.
- ▼ Check the quality of the input resource.
- ▼ Seed treatment should be done by the seed company itself or with certified seed treatment equipment.

### Negotiating prices

- ▼ Make sure that you pay the best market-oriented price.
- ▼ Obtain as many quotations as possible and do not simply accept the first and best price.
- ▼ Ask your neighbour what he paid for the input.
- ▼ Purchase inputs jointly.
- ▼ Members are free to contact Grain SA with respect to input price trends.

*It provides additional peace of mind if a company from which you make purchases is a member of an umbrella organisation, for example for seed – SANSOR; for fertiliser – Fertasa, for agrochemicals – CropLife, and for agricultural machinery – SAAMA.*

### When purchasing agrochemicals:

- ▼ Make sure that the chemical is registered for the purpose for which it is being used.
- ▼ Make sure that the owner of the chemical is a member of CropLife.
- ▼ Make sure that the distribution company is a member of CropLife and that the agent is qualified.

*As a rule, use small control sites to test new input resources before using them on a large scale.*

### Rhizobia bacteria

- ▼ It is important to use only registered (L registration in terms of Act No. 36 of 1947) chemicals.
- ▼ The product concerned must also preferably be recommended by the company whose seed is being planted.
- ▼ Do not use new products on a large scale.

### Tips when purchasing soil amendments, foliar nutrition and organic substances

Producers should note that some of these input resources have not been properly tested or registered in terms of Act No. 36 of 1947.

### When considering using such an input resource, you should therefore note the following:

- ▼ Make sure it has been registered in terms of Act No. 36 of 1947.
- ▼ Insist on long-term statistics and preferably independent local test results.
- ▼ Never use such an input resource on a large scale immediately.
- ▼ Rather use small-scale strip trials that can be evaluated statistically.
- ▼ Determine whether it is cost effective to use the input resource.

Corné Louw, senior economist: Inputs, Grain SA

# Do the right thing with farm plastic

**M**ost pesticides that are supplied to producers are packed in HDPE (high density polyethylene) containers, while seed is supplied in woven PP (polypropylene) bags. Estimated quantities of HDPE entering the agriculture sector is around 8 500 metric tons and seed bag PP is around 2 000 tons.

These plastic containers and bags are recyclable and are highly sought after by the recycling industry. There is no need for agriculture to pollute the terrestrial, aquatic or marine environment with empty pesticide containers or seed bags. With the global concern about pollution and waste management it is also not necessary for producers to burn or bury such materials on the farm.

## RECYCLING STARTS ON THE FARM

Triple rinsing is a requirement to cleanse empty HDPE pesticide containers efficiently, while a simple rinse with running water will clean a seed bag to the point where it is safe for recycling. CropLife SA has guidelines on triple rinsing and cleansing of seed bags on the website ([www.croplife.co.za](http://www.croplife.co.za)) under container management. It takes less than three minutes to triple rinse a HDPE container and less than two minutes to cleanse a seed bag.

## PLASTIC RECYCLERS CAN HELP

A network of CropLife SA-certified plastic recyclers can be found on <https://croplife.co.za/container-management/>. These recyclers take the triple-rinsed empty HDPE containers and seed bags, and recycle them into other commodities. Laws and regulations that govern waste in South Africa classify such cleansed containers and seed bags as non-hazardous. This means it does not require special permits for transport from the farm to collection points or to recycling plants.

Service providers who collect containers and bags need not be licensed, provided they only collect triple-rinsed empty containers and thoroughly cleansed seed bags. Transporting unrinsed containers fall squarely within the ambit of the regulations for dangerous goods transportation and such transporters must be licensed as such.

There is no issue with any of the service providers that are certified by CropLife SA and producers can rest assured that these individuals and companies operate according to the policies and statutes of the country.

The HDPE and PP from the agricultural sector are treated with great respect, because it is valuable material and generally much cleaner than the other plastic materials that are collected for recycling.

### Here is what happens at the recyclers:

- ▼ Plastic materials are sorted into the different types before being processed.
- ▼ HDPE containers are shredded with a very powerful industrial-grade shredder before being rinsed at high temperatures.
- ▼ These small shreds or chips go into a bin where it is heated to over 150 °C and the molten material is extruded, cooled down and chopped into small granules.
- ▼ Testing of the granules is standard practice and levels of pesticide residues are hardly ever detected, which means the plastic is clean.
- ▼ Granules are then used to manufacture a wide range of commodities.



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Pest Control

## 66 Do the right thing with plastic...

### CAUTION

Not all collectors and recyclers of waste plastics play by the rules. Do not get caught by fly-by-night operators, but use service providers that are certified by CropLife SA. CropLife SA issues a certificate of approval to each certified plastic recycler. This has to be shown to producers before being allowed to take empty containers or seed bags.

The service provider must also issue the producer with a CropLife SA certificate of adequate empty container disposal every time the producer disposes of containers or bags via a CropLife SA-certified plastic recycler.

Some of the unscrupulous operators take containers from producers and sell them as water and food containers. This goes against all principles of human safety. Producers are asked to contact CropLife SA and report such incidents immediately.

### THE WORLD IS WATCHING FARMING WITH A HAWK'S EYE

Although the public enjoy eating the producers' food, they easily target producers when they see something worth complaining about. A mountain of unrinsed containers on a farm is not only unsightly, it is unlawful and a serious human and environmental health risk. Do not offer the antifarming lobbyists tools to portray producers as rogues or polluters by not recycling empty containers and seed bags.

Let us collectively decide that all farm plastics need to be recycled; it is the right thing to do.

For more information contact **Dr Gerhard Verdoorn** from CropLife SA at **082 446 8946** or [gerhard@croplife.co.za](mailto:gerhard@croplife.co.za).



*This article first appeared in SA Graan/Grain September 2020. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za).*

**Dr Gerhard H Verdoorn, CropLife South Africa**

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# What **INTEGRATED PEST MANAGEMENT** entails

## WHAT IS INTEGRATED PEST MANAGEMENT?

- Integrated pest management (IPM) **emphasises** the growth of a healthy crop with the least possible disruption to agro-ecosystems. It **encourages** natural pest control mechanisms.
- IPM uses all **suitable techniques or strategies** to keep pests below levels that cause unacceptable crop loss. These different strategies are usually placed under the main headings of mechanical, cultural, sanitation, biological and chemical methods of pest management.
- It is the careful **consideration** of all available pest control techniques and subsequent integration of suitable measures that discourage the development of pest populations.
- The first **requirement** of IPM is to grow a healthy crop, which is more able to withstand the effects of pests than a weak crop or one under stress.
- Pest management **protects** the crop against yield losses – it does not increase the potential of a crop to produce a high yield.
- It is also a **combination** of all appropriate practices into a single plan for crop and pest management that optimises the use of inputs to reduce pests and crop damage to an acceptable level and to maximise crop yields.

## WHICH METHOD IS BEST?

The choice of which pest management method to employ will depend on the crop and pest situation. The infrastructure under which the crop is produced (open field versus greenhouse), as well as the availability of resources also have to be taken into consideration.

The implementation of pest management needs to take into account that the crop is constantly changing – due to the weather, the natural growth stages of the crop, as a result of the producer's management practices and as a result of changes in pest types and numbers.

## ADVANTAGES OF IPM

- The use of inputs is optimised.
- Unnecessary pesticide use is avoided, resulting in reduced costs.
- Crop losses are reduced.
- The development of pests resistant to pesticides is avoided.
- Crop production is sustainable and biodiversity is maintained.
- The risk of human, animal, food, wildlife and environmental contamination is reduced.

## REMEMBER

IPM cannot be considered on its own as it is only one aspect of overall crop production that needs to be considered by a grower. Overall management of the crop by the grower affects pest management, and *vice versa*.

*The original article was published in the September 2019 issue of SA Graan/Grain.*

**Rod Bell, CEO of CropLife South Africa**

# Address agri-pests **EFFECTIVELY**

**Q**ueleas and locusts are major pests of agriculture that can cause substantial damage to pastures and crops. The Department of Agriculture, Land Reform and Rural Development is responsible for the control of queleas and locusts. They are declared pests according to the Agricultural Pests Act (Act no. 36 of 1983).

**Before an official of the department can do a physical inspection in the case where queleas have been reported, the following procedures/steps must be followed by the complainant:**

**1** The sleeping or breeding area of the flock of queleas causing the damage must be correctly identified. The area can only be identified early in the evening, as the queleas will not be at their respective nests during the day. Breeding flocks will have nests and they can be used during the day to identify the breeding area.

**2** If the area identified is not the property of the complainant, the complainant must obtain permission for access and possible control actions from the land owner concerned.

The complainant may then contact one of the resource conservation inspectors (see contacts alongside) with the information and report the queleas. An appointment will be made to inspect the sleeping or breeding area in the company of the complainant.

CONTACT DETAILS FOR REPORTING PESTS	
Contact details for queleas	
<b>JOHN TLADI</b> Deputy Director: Migrating Pests Tel: 012 309 5743 Cell: 060 973 2366	<b>KHULISO GANGASHE</b> Assistant Director Tel: 012 309 5823 Cell: 067 410 6103
<b>COLIN BURKE</b> Tel: 012 309 5826 Cell: 082 451 4861	<b>PRUDENCE MAJOZI</b> Tel: 012 309 5866 Cell: 076 655 1466
<b>LUKA GEERTSEMA</b> Tel: 012 309 5824 Cell: 066 299 5365	<b>VINCENT MAKHARI</b> Tel: 012 309 5877 Cell: 073 175 3843
Contact details for locusts	Contact details for army worms
<b>VUYOKAZI JONGWANA</b> Migrating Pests Officer: De Aar Cell: 084 760 8176	<b>JOHN TLADI</b> Deputy Director: Migrating Pests Tel: 012 309 5743 Cell: 060 973 2366

**Corné Louw, senior economist: Inputs, Grain SA**



# Poor quality agrochemicals

## – HERE IS WHAT YOU SHOULD DO

If you suspect or experience problems with the quality of agrochemicals, take the following steps:

- 1** Contact the representative as soon as possible and insist on an investigation on site.
- 2** Also keep a record of dates and conversations.
- 3** Gather and write down as much information as possible, take photos or make videos.

If you are unable to resolve the problem with the company, do the following (do not wait too long before doing so):

- ▼ Contact an independent scientist to do an investigation on site.
- ▼ Members should inform Grain SA if the chemical company does not attend to the problem as required.

The quality of agrochemicals (active ingredients) can be tested at the South African Grain Laboratory (SAGL).

**CECILIA BREEDT**  
 Crop Protection Division – SAGL  
 Cecilia.breedt@sagl.co.za  
 +27 (0) 12 807 4019/2023  
 Mobile: +27 (0) 82 458 9327



# THIS PLAN HELPS TO CONTROL GERBILS

**G**erbils are one of the grain producer's biggest enemies, but they can be managed effectively with the right methods without harming the environment. However, there are many ways in which legal rodenticides are abused and illegal pesticides harm the environment and its numerous gerbil predators.

## Producers should take note of the following:

- ▼ The scattering of zinc phosphide bait on the soil surface is ineffective and creates the risk of birds and other mammals picking up the bait and being poisoned.
- ▼ The scattering of wax-block bait or paste bait on the soil surface is also ineffective, as the sun can destroy it.
- ▼ It is illegal to mix bait yourself with carbofuran and grain, and it is also extremely dangerous.
- ▼ It is illegal to use rodenticides that are not registered for gerbils.
- ▼ It is illegal to treat seed with carbofuran and it is also ineffective for controlling gerbils.
- ▼ It is illegal to treat seed with zinc phosphide and creates the risk that the seed will not germinate.

## Rather do the following:

- ▼ Use only rodenticides registered for gerbils.
- ▼ Always place bait directly in the burrows and then seal the burrows, or place bait in plastic pipes close to the nests.
- ▼ Use natural rodent control by encouraging owls and raptors with suitable poles and hatching boxes.

Contact CropLife South Africa for a free copy of the complete gerbil management plan at [gerhard@croplife.co.za](mailto:gerhard@croplife.co.za) or **082 446 8946**.

**Scan the QR code for the Gerbil management plan:**



**Dr Gerhard H Verdoorn, CropLife South Africa**

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# Buy agrochemicals from an ACCREDITED CROP ADVISER

**A**griculture in South Africa is based on more than just a business exchange or making a profit – it is based on human relationships and trust. However, if something goes wrong, it shakes these foundations to the core and can leave a producer exposed – often without recourse.

Crop protection plays a critical role in this value chain. One could even say that trust is necessary in this area more so than any other, considering that these important substances are potentially hazardous and could pose an extreme risk to a producer's entire harvest, but also to consumers and the environment. Would it not make sense then, to buy from someone who is qualified and who has committed to abide by the highest ethical standards?

## Agent status

This is why CropLife SA embarked on a journey to establish a continuous professional development (CPD) programme that ensures agrochemical sales agents of member companies are provided with a range of learning activities that maintains and enhances their professional competencies and knowledge. The programme aims to advance and promote the status of the agent as a crop adviser, acting in the interest of the environment, community and the producer.

It requires that a participant reaches a certain number of points in three respective categories:

technical training and learning activities, business management training and learning activities as well as safety and legal-related training and activities. In addition, they must complete the Basic Crop Protection course as a minimum requirement for participation.

Once an agent has obtained the required CPD points, he/she is issued with a CropLife SA accreditation card and earns the title of crop adviser.

This means that producers can have peace of mind when buying from a CropLife SA-accredited crop adviser, because they know the person is qualified, up to date with industry knowledge and adheres to

## Insist on accreditation

CropLife SA encourages all producers to insist on this accreditation before purchasing agrochemical products. That being said, a producer should always ensure to only use products that are registered in South Africa for the intended purpose, which refers to a specific pest, crop and application method as well. An easy way to verify this is to register on [www.agri-intel.com](http://www.agri-intel.com) and view the label information of the product in question.

The responsibility lies with each player in the value chain to ensure that the trust that is held so dearly in agriculture, is maintained.

For more information contact CropLife SA at 087 980 5163 or [info@croplife.co.za](mailto:info@croplife.co.za)

This article first appeared in SA Graan/Grain February 2020. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za).

Elriza Theron, marketing and communications manager, CropLife SA



# STORAGE AND MARKETING

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**South African Cereals and Oilseeds Trade Association (SACOTA)**  
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**South African Grain Information Service (SAGIS)**  
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012 941 2050

# Grade differentials for **WHEAT**

**T**able 1 contains the grade differentials for wheat during the 2019/2020 marketing year as announced by Safex. The differentials apply from 1 October 2019 to 30 September 2020. Market participants are reminded that the differentials apply to physical delivery only if futures are fulfilled to facilitate the standardisation of the wheat contract. Grade differentials in the cash market can therefore differ from these.

## 1 Grade differentials for wheat for the 2020/2021 marketing year.

GRADE	MINIMUM PROTEIN	GRADE ADJUSTMENT	GRADE DISCOUNT
Super	12,5%	+2%	+R97
B1	11,5%	Base	Par
B2	10,5%	-1%	-R48
B3	9,5%	-4%	-R194

The JSE is responsible for calculating the grade differentials for wheat. A set method, approved by the advisory committee, is used for this calculation.

## WHEAT ORIGIN DISCOUNTS

As agreed upon with the rest of the industry, wheat for delivery from the following origins will attract a zero origin discount.

- ▼ USA (Hard Red Spring, Dark Northern Spring, Northern Spring Wheat).
- ▼ USA (Hard Red Winter Wheat).
- ▼ Canola (Number 3 or better Red Western Spring Wheat).
- ▼ Australia (Hard, Prime Hard, Prime White and Standard White Wheat).

Wheat for delivery from the below origins will attract the following origin discounts.

- ▼ Argentina
- ▼ Germany (type A or B Wheat)
- ▼ Ukraine
- ▼ Russia

GRADE	ORIGIN DISCOUNT ADJUSTMENT	2019-20 ORIGIN DISCOUNT	2020-21 ORIGIN DISCOUNT
B1	-2%	-R89	-R97
B2	-3%	-R133	-R145
B3	-6%	-R267	-R290

Luan van der Walt, economist, Grain SA

#BreekNuweGrond

# JOU GRAANHANTERINGS- EN OPBERGINGSVENNOTE

Storage and Marketing

## SENWES GRAINLINK EN SUIDWES GRAAN

Met verhoogde silokapasiteit, 'n groter bedieningsgebied en meer dinamika diens Senwes Grainlink en Suidwes Graan produsente met pasgemaakte oplossings vir elkeen se unieke behoefte. Saam beskik die twee agribesighede oor 84 silokomplekse, 18 graanverkrygingskantore, 6 alternatiewe opbergingsstrukture en 2 deurvoerpunte.

[www.senwes.co.za](http://www.senwes.co.za) • [www.suidwes.co.za](http://www.suidwes.co.za)

The logo for SUIDWES, featuring a stylized green bird-like icon above the word "SUIDWES" in a blue, serif font.The logo for Senwes grainlink, featuring the word "Senwes" in a white script font and "grainlink" in a smaller white sans-serif font, both on a green rectangular background with a white stylized 'S' icon to the right.

# Grain marketing calendar

# 2021

## CROP ESTIMATES COMMITTEE AND SAGIS DATES FOR 2021

### Monthly information

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SAGIS monthly data	26	25	26	28	26	25	27	26	28	26	26	23
SAGIS monthly product data	15	5	5	9	7	4	2	6	3	8	5	3
Crop Estimates Committee	28	11 & 25	25	29	6 & 27	29	28	26	29	27	25	15

### Weekly information

SAGIS weekly bulletin	7	4	4	1	6	3	1	2	9	7	4	2
	14	11	11	9	13	10	15	13	16	14	11	9
	21	18	18	22	20	18	22	19	23	21	18	<del>17</del>
	28	26	25	30	27	24	29	27	30	28	25	<del>23</del> <del>31</del>
SAGIS weekly Import and export data	8	4	4	1	6	3	1	2	9	7	4	2
	14	11	11	9	13	10	15	13	16	14	11	9
	21	18	18	22	20	18	22	19	23	21	18	<del>17</del> <del>23</del>
	28	25	26	30	27	24	29	26	30	28	25	<del>31</del>
SAGIS weekly Producer delivery data	8	3	3	8	5	2	7	4	1	6	3	1
	13	10	17	14	12	9	14	12	8	15	13	8
	20	17	26	21	19	17	21	18	22	20	17	15
	27	24	31	29	26	23	28	25	29	27	24	22

### Notes

All publications are released after 12:00 on the scheduled date

~~X~~ = No publication will be released in that week

## JSE DATES FOR CONTRACTS

100 tons of white maize and yellow maize, 50 tons of wheat, sunflower and soybeans and 30 tons of sorghum.

These contracts are typically offered one year before their expiry date, although they can also be offered earlier if there is a demand for them.

EXPIRY MONTH	FIRST POSITION DAY	FIRST NOTICE DAY	LAST NOTICE DAY	LAST TRADING DAY	FIRST DELIVERY DAY	LAST DELIVERY DAY	OPTION EXPIRY DATE
Dec 2020	25/11/2020	30/11/2020	24/12/2020	23/12/2020	01/12/2020	28/12/2020	24/11/2020
Mar 2021	23/02/2021	26/02/2021	25/03/2021	24/03/2021	01/03/2021	26/03/2021	22/02/2021

## JSE DATES FOR CONTRACTS (continued)

EXPIRY MONTH	FIRST POSITION DAY	FIRST NOTICE DAY	LAST NOTICE DAY	LAST TRADING DAY	FIRST DELIVERY DAY	LAST DELIVERY DAY	OPTION EXPIRY DATE
May 2021	26/04/2021	30/04/2021	25/05/2021	24/05/2021	03/05/2021	26/05/2021	23/04/2021
Jul 2021	25/06/2021	30/06/2021	26/07/2021	23/07/2021	01/07/2021	27/07/2021	24/06/2021
Sep 2021	26/08/2021	31/08/2021	23/09/2021	22/09/2021	01/09/2021	27/09/2021	25/08/2021
Dec 2021	25/11/2021	30/11/2021	24/12/2021	23/12/2021	01/12/2021	28/12/2021	24/11/2021
Jul 2022	27/06/2022	30/06/2022	25/07/2022	22/07/2022	01/07/2022	26/07/2022	24/06/2022

## DATES FOR ALL FIXED MONTHLY CONTRACTS

These contracts are offered 40 business days before the actual delivery month.

EXPIRY MONTH	FIRST POSITION DAY	FIRST NOTICE DAY	LAST NOTICE DAY	LAST TRADING DAY	FIRST DELIVERY DAY	LAST DELIVERY DAY
Oct 2020	25/09/2020	30/09/2020	26/10/2020	23/10/2020	01/10/2020	27/10/2020
Nov 2020	27/10/2020	30/10/2020	24/11/2020	23/11/2020	02/11/2020	25/11/2020
Jan 2021	28/12/2020	31/12/2020	25/01/2021	22/01/2021	04/01/2021	26/01/2021
Feb 2021	26/01/2021	29/01/2021	22/02/2021	19/02/2021	01/02/2021	23/02/2021
Apr 2021	26/03/2021	31/03/2021	23/04/2021	22/04/2021	01/04/2021	26/04/2021
Jun 2021	26/05/2021	31/05/2021	24/06/2021	23/06/2021	01/06/2021	25/06/2021
Aug 2021	27/07/2021	30/07/2021	25/08/2021	24/08/2021	02/08/2021	26/08/2021
Oct 2021	27/09/2021	30/09/2021	25/10/2021	22/10/2021	01/10/2021	26/10/2021
Nov 2021	26/10/2021	29/10/2021	24/11/2021	23/11/2021	01/11/2021	25/11/2021

Luan van der Walt, economist, Grain SA

## Basic hedging of grain summarised

**A** put option is an option to sell and will typically be used by a producer to determine a minimum price at which he can sell his product in future. The producer buys the put option and then pays a premium on the option. If the price increases from the date when the option was purchased until it expires. The producer is not obliged to make use of the option and the product can be sold at the higher price. When the price falls, he is assured of the minimum price at which he will sell. (See the example in **Table 1**.)

### 1 Hypothetical price calculation for when a put option is bought and prices change.

	BASIC CALCULATION	PRICE ↑	PRICE ↓
Forward price	R2 500,00	R3 000,00	R2 000,00
Put strike price	R2 500,00	R2 500,00	R2 500,00
Put premium	R200,00	R200,00	R200,00
<b>Net Safex price</b>	<b>R2 300,00</b>	<b>R2 800,00</b>	<b>R2 300,00</b>

## Basic hedging of...

A call option is an option to buy and will typically be used by a miller/purchaser to determine a maximum price at which he will buy his product in future. The miller buys the call option and then pays a premium on the option. If the price falls from the date the option was purchased until it expires, the miller is not obliged to make use of the option and the product can be bought at the lower price. When the price increases, he is ensured of the maximum price at which he will buy. (See the example in **Table 2**.)

### 2 Hypothetical price calculation for when a call option is bought and prices change.

	BASIC CALCULATION	PRICE ↑	PRICE ↓
Forward price	R2 500,00	R3 000,00	R2 000,00
Put strike price	R2 500,00	R2 500,00	R2 500,00
Put premium	R200,00	R200,00	R200,00
<b>Net Safex price</b>	<b>R2 700,00</b>	<b>R2 700,00</b>	<b>R2 200,00</b>

A short hedging is typically used by a producer who wants to protect himself against a fall in price. The producer will therefore sell futures on Safex at the forward price for that specific contract month and in that way he will secure his price at that level. With the use of short hedging it does not matter whether the physical price increases or falls during the term of the contract. The price at which the hedging was implemented stays unchanged. It is important to remember that when you want to sell a product and you want to safeguard yourself against a fall in price, you have to do a short hedging, in other words sell futures. (See the example in **Table 3**.)

### 3 Hypothetical price calculation for a short hedging when prices change.

	BASIC CALCULATION	PRICE ↑	PRICE ↓
Forward price	R2 500,00	R3 000,00	R2 000,00
Sell futures	R2 500,00	R2 500,00	R2 500,00
<b>Net Safex price</b>	<b>R2 500,00</b>	<b>R2 500,00</b>	<b>R2 500,00</b>

A long hedging is typically used by a miller/purchaser who wants to protect himself against an increase in price. The miller will therefore sell futures on Safex at the forward price for a specific contract month and in that way he will secure his price at that level. With the use of long hedging it does not matter whether the physical price increases or falls during the term of the contract. The price at which the hedging took place stays unchanged. It is important to know that when you want to buy a product and you want to safeguard yourself against an increase in price, you have to do long hedging, in other words buy futures. (See the example in **Table 4**.)

### 4 Hypothetical price calculation for a long hedging when prices change.

	BASIC CALCULATION	PRICE ↑	PRICE ↓
Forward price	R2 500,00	R3 000,00	R2 000,00
Buy futures	R2 500,00	R2 500,00	R2 500,00
<b>Net Safex price</b>	<b>R2 500,00</b>	<b>R2 500,00</b>	<b>R2 500,00</b>

Luan van der Walt, economist, Grain SA

# IRRIGATION

## CONTACTS

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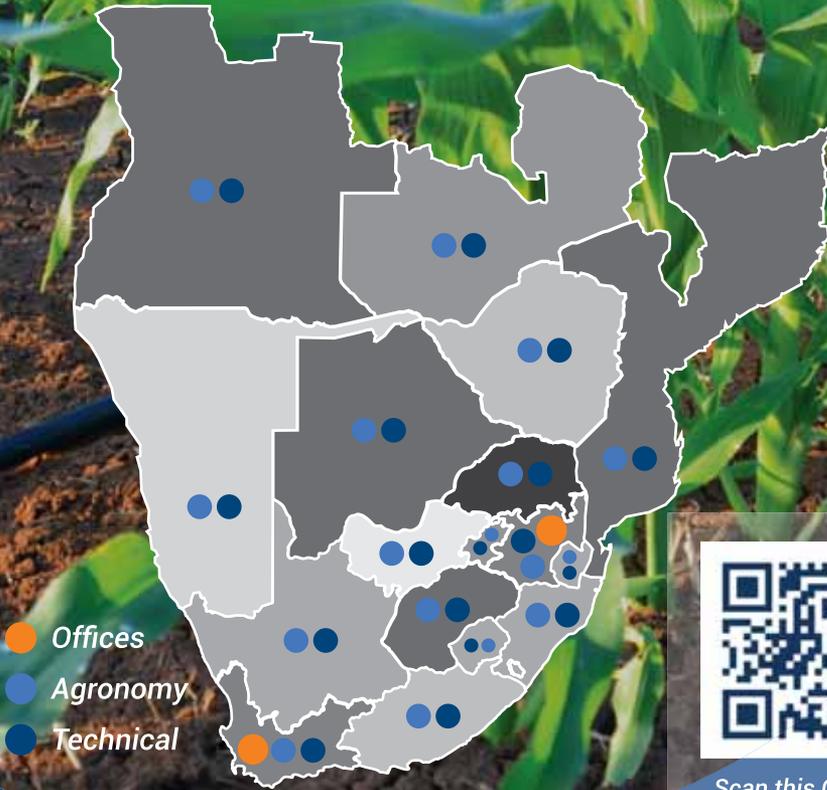
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*pi@toanon.co.za*  
080 020 5005

**South African Institute of Agricultural Engineers  
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# The most *important* input of **IRRIGATION**

**W**ater scheduling remains the most important factor affecting yield and quality in irrigation conditions.

**Figure 1** shows the GWK team's approach to precision farming, and it is clear that water and water-related matters play an enormous role in yields.

In contrast to dryland conditions, the application of water can be controlled to promote optimum growth and production. For optimum irrigation scheduling conditions the physical condition of the soil must be optimal. The management of the total hydraulics in the soil is just that more simple when all soil-physical barriers have been removed.

Naturally soil biology and chemistry also play a significant role in optimum soil conditions. The concept of water scheduling must be viewed in a holistic context, where a wide variety of factors can influence the effectiveness of irrigation.

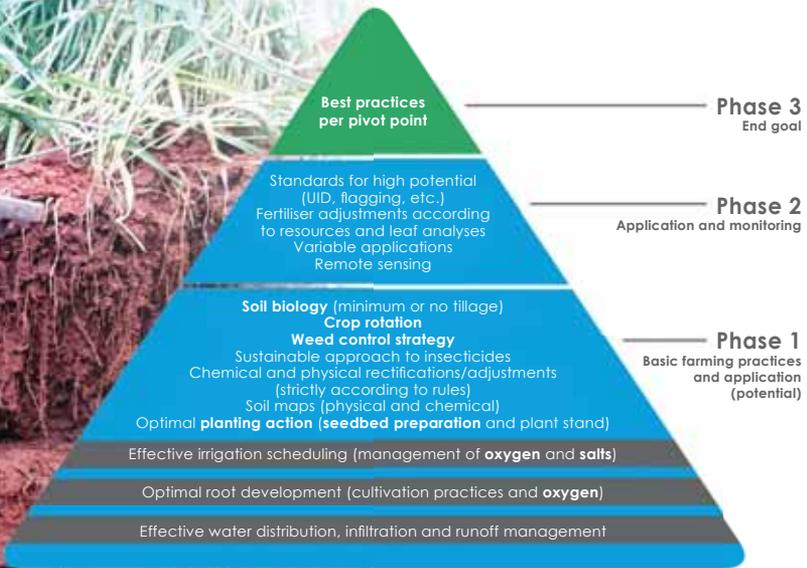
How should you approach water scheduling? A mistake producers make when it comes to water scheduling is to focus on point data (where the measuring point is) to such an extent that the bigger picture of the unit that is

managed is missed. It is essential for remote sensing to be linked to point data to ensure that realistic and appropriate water recommendations are made.

Using point data with the aid of measuring instruments (probes) provides the production with an indication of the amount of water that is required/used by the plant. The data also indicates how the hydraulics work at that particular point (how long it takes the water to move through specific soil layers, etc.).

The latter is important to predict the amount of water that is applied every time. If the soil profile is drying out (deeper layers where roots occur), more water must be applied if the profile can handle these quantities of water. Do not wait too long before giving more water, so that the hair roots closer to the soil surface do not die because of they are dry. A fine balance must be maintained between when and how much water is given.

One of the biggest headaches of irrigation is run off and run-off management. If the infiltration rate of soil is exceeded, problems with run off can be experienced. The latter is clear from the graphs generated by certain measuring instruments (continuous logging).



## ◀ The most important input...

Run off is mainly associated with large quantities of water running from an irrigation pivot or moving along the wheel tracks. The micro quantities of water running off from small surfaces to adjacent parts also cause damage, but are not necessarily picked up.

The problems multiply when fertiliser is applied through the systems. Concentrations of water and fertiliser that accumulate in certain areas can have temporary toxic consequences. These problems increase if no effective primary tillage occurred, leading to a homogeneous growth medium.

### Crop-specific strategy

Another thing that makes water scheduling effective is introducing a strategy per crop with respect to how much and when water is given during the growth cycle. The latter will vary from crop to crop and in future it will probably vary from cultivar to cultivar too.

This strategy will form part of the producer's planning and will affect the application times of various other elements like weed control, fungicides and fertiliser. This strategy can be set up only by experienced specialist experts. Considerable variations in water scheduling can occur with respect to planning between cultivars, soil types and management practices.

Be careful of recipes, therefore, although they are handy for planning purposes.

Unfortunately there is no single recipe that works for everyone. Soils that tend to be saline will have to be handled differently from soils that do not, for example. When wheat is planted, certain plantings – in contrast to benchmarks – may get water more regularly than others to manage the salt concentration in the soil better, especially for seedlings. The quality of the water naturally also plays a role here.

Oxygen plays a vital role in irrigation scheduling. Possible barrier or compaction layers mean that recommendations deviate from the normal to prevent anaerobic conditions from developing.

### GOLDEN RULES OF WATER SCHEDULING

- ▶ Think holistically and be aware of the factors that can affect each other
- ▶ Soil physics – make sure the physical status of the soil is optimal
- ▶ Know how far the roots of the crop have developed by using profile holes
- ▶ Effective systems are essential – note the pressure and water reticulation in particular
- ▶ Maximum oxygen. Make sure that there is always sufficient oxygen in the soil – prevent anaerobic conditions
- ▶ Prevent run off, as this is harmful at a micro as well as a macro level
- ▶ Monitoring – calibrate measuring points with the aid of a soil auger and monitor them by means of satellite images that offer a spatial overview
- ▶ Good communication between all parties involved in water scheduling is non-negotiable

### TO SUMMARISE

Focus on doing the basic things right, then water management will be simpler. The producer must ensure that roots develop optimally, that no human-made barrier layers occur in the soil and that the water reticulation of the irrigation system works correctly as designed.

Keep in mind that oxygen is one of the most important factors to take into account in water management. A meaningful concept to understand and monitor is that of water use efficiency (WUE). The producer must always know how many kilograms of product and how many rands he generates per millimetre of water used.

*This article first appeared in  
SA Graan/Grain October 2020.  
Read it online at [sagrainmag.co.za](http://sagrainmag.co.za).*

**Dup Haarhoff, GWK Agricultural Services**



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**Proagrica**

# GEOFENCING –

## the smart way to farm

**G**eospatial innovations such as satellite technology, imagery and geospatial planning have grown in uptake globally and in South Africa. These technologies commonly referred to as 'smart farming' play an increasingly important role in agribusiness.

Although the term encompasses a wide range of technological innovations from drones to mobile apps, the use of geofencing for crops and livestock is gaining increased momentum. By utilising geofencing technology relevant service providers can aggregate specific information depending on crop type and location.

Wahl Bartmann, CEO of Fidelity Services Group, says: 'Geofencing is the use of GPS technologies to demarcate 'fenced' areas without the need for a physical fence. It allows producers to plan crop placement, keep track of livestock and monitor farming conditions over vast areas of land.' He adds that with GPS-enabled technologies and geofencing, producers can plot out the most efficient and effective routes for their tractors and harvesters to save on time, fuel consumption and labour needs. Here are a few examples of how GPS can benefit the producer and his farm.

### PEST CONTROL AND CROP HEALTH

- ▼ Manage and record geographic location and the spread of pests and disease to effectively manage these problems.
- ▼ Producers can further determine which areas are more likely to be affected in the future should an outbreak start using weather and other information. This can protect crops more effectively.

### PLOUGHING ACCURACY AND FIELD MAPPING

- ▼ Crops can be plotted and furrows planned to ensure the most efficient widespread use of available land.
- ▼ Precision techniques can take into account existing features such as roads, fencing and buildings to decide on field limits.

### PLANTING AND FERTILISATION

- ▼ GPS data can be utilised to control precise seed placement.
- ▼ GPS technology and geofencing can be applied to fertilisation, soil tests and such to better understand and analyse the area to ensure adequate harvest development. This enables the producer to fertilise specific crops as needed.

### GEOFENCING TO MONITOR CROPS AND LIVESTOCK

- ▼ Create landmarks and geofences around specific geographic locations to assist with the rotation of livestock to enhance yield and keep livestock in the designated areas.
- ▼ Further crop data analysis and soil management information can be used to determine whether a specific harvest is performing or not.
- ▼ Information on soil quality, fertiliser dispersion requirements as well as pesticide and herbicide usage can be tracked and monitored for future crop planning.
- ▼ GPS-enabled animal monitoring and tracking collars and tags can assist with the protection of livestock and prevention of stock theft.
- ▼ It also helps producers to keep track of livestock location, grazing patterns and general health through temperature monitoring.

*This article first appeared in SA Graan/Grain October 2020. Read it online at [sagrainmag.co.za](http://sagrainmag.co.za).*

**Charnel Hattings, national marketing and communications manager, Fidelity Services Group**

# 'Swarms' of drones envisaged in the future

**R**emotely Piloted Aircraft Systems (RPAS), or drones, form part of the innovative future of agricultural technology. These devices have been available since the early 1980s and are viewed as the cornerstone of the agricultural technology revolution.

## THE IMPACT OF DRONES

The positive impact that the devices have on the current agricultural techniques make them indispensable in the future. Although not every producer will have access to a drone, a common need is to simplify digitalisation in agriculture. Because drones can meet this need, they are regarded as a fundamental step in the promotion of agriculture.

According to an article in the *Journal of Agricultural and Environmental Ethics* in 2019, the industry that has developed around drones is a result of a bridge between aeronautics, data communication, computer skills and robotics. The combination of these diverse study fields provides more accurate and speedy conclusions for the hypothesis on the scope of data. New methods of expanding and strengthening this industry therefore make it a leader in the agricultural technology revolution.

## AGRICULTURE 4.0

Experts predict that, thanks to devices like drones, the fourth agricultural technology revolution – also known as *Agriculture 4.0* – is not too far in the future.

Published research on the website of *Global Food Security* refers to the dawn of the era in which a greater variety of 'future agriculture' or 'future food systems' – characterised by radical high technology – can change the entire approach to agriculture. The revolution is based on improving and simplifying agricultural techniques and is linked to the drone-induced image of 'swarms of innovations'.

Drones are regarded as indicators of Agriculture 4.0 because the innovation around the design and function of the device provides speedy results, and with each adaptation the possible solutions for food security become more relevant. This revolution is coming closer as the leaders in this field test visionary approaches to change.



## INNOVATIVE APPROACHES

- ▶ The future allegedly involves 'swarms' of autonomous drones that carry out agricultural tasks as a unit, leaving the gathering of data to hybrid aerial and ground drones.
- ▶ Robotics are promoted with 'group-thinking algorithms' to retain the formation of the 'swarm'. The innovative concepts that pop up in Italy and France are centred on the specific way in which these 'swarms' move in order to estimate the most effective method of movement. They investigate processes honey bees follow and design the pattern, which they copy.
- ▶ At the 2017 InterDrone show the Intelligent Energy Company introduced a drone that runs (and flies) on hydrogenic cells that can provide three times more power than a standard battery.
- ▶ In 2017 the Inensive company also demonstrated a drone at the Agritechnica show that can conduct power from a vehicle or tractor in order to charge.

## INVESTMENT OR NOT?

A research scientist from *Alberta Agriculture and Forestry* in the USA, Chris Neeser, explains that these devices can definitely be purchased for their importance in the technological progress of agriculture, but that the interpretation of the data recorded by a drone will not necessarily be constant or cheap. According to him, drones in 2020 are similar to computers in 1980.

There are many improvements that can be made before, while and after you invest in one. He also maintains that people's fascination with this new technology is sometimes greater than the ability to use it effectively.

SA Graan/Grain editorial team



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# Grain SA members do it *DIGITALLY*

In a farming environment where state of the art technology is commonly used in planting, spraying, harvesting, remote sensing, monitoring, grain marketing, safety and what not, is wouldn't come as a surprise that Grain SA's membership card is available in digital format only.

Grain SA members obtained access to a variety of value-added benefits from the Grain SA Digital Membership Card since it was introduced in 2019. The following features are at hand through the user friendly Joyn-app:

- ▼ Access to Grain SA member benefits
- ▼ Quick access to the Grain SA web page and event information
- ▼ Quick access to Grain SA market reports
- ▼ Easy access to your NAMPO tickets
- ▼ Touch of a button access to the latest issue of *SA Graan/Grain* and *Pula-lmvula* magazines
- ▼ Create your own e-wallet by adding other membership cards

To access your NAMPO tickets or any of the above features, download the Joyn app from the Apple or Android app store:

APPLE-APP:



ANDROID-APP:

## Who to contact for PRECISION FARMING

**S**truggling to get to the right person to address your precision farming need? Below is a list of contact details to make the search for precision farming systems and services easier.

COMPANY	CONTACT PERSON	NUMBER	EMAIL
John Deere	Werner Prinsloo	011 437 2600	<a href="mailto:prinsloowerner@johndeere.com">prinsloowerner@johndeere.com</a>
Axioteq	Rudi du Toit	073 081 8279	<a href="mailto:rudi.dutoit@axioteq.com">rudi.dutoit@axioteq.com</a>
Northmec	Gideon Grobler	082 532 6089	<a href="mailto:gideong@northmec.co.za">gideong@northmec.co.za</a>
Ronin Precision	Gerrit Meyer	072 493 5423	<a href="mailto:gerrit@thisisronin.com">gerrit@thisisronin.com</a>
Topcon	Christo Helm	083 233 5497	<a href="mailto:chelm@topcon.com">chelm@topcon.com</a>
Electrolee	Hein Kruger	072 181 5266	<a href="mailto:hein@electrolee.co.za">hein@electrolee.co.za</a>



# FINANCE

## CONTACTS

### INSTITUTION

**South African Revenue Service (SARS)**  
*Contact.central@sars.gov.za*  
*Contact.north@sars.gov.za*  
*Contact.east@sars.gov.za*  
*Contact.south@sars.gov.za*  
080 000 7277



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# Can your FARM AFFORD you?

**A** producer's cost of living has a major effect on the financial viability of his farming operations. Because producers and members of their family who are involved in the farm do not receive a formal salary for their services, they mainly use withdrawals from the farm's bank account to cover their cost of living.

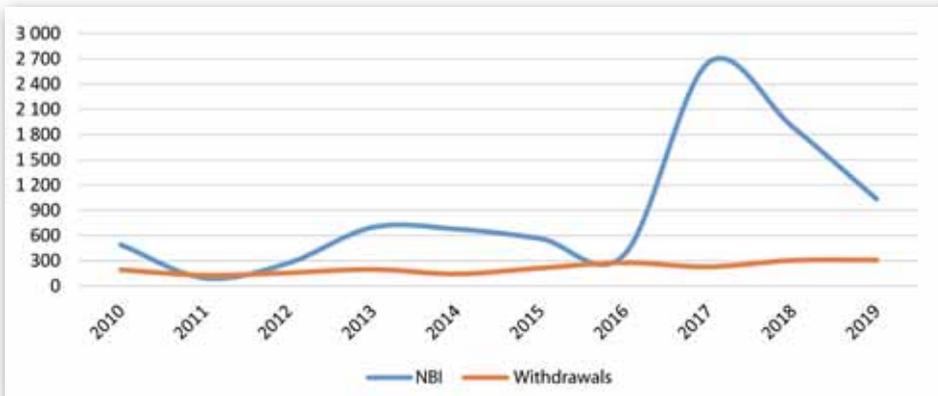
These withdrawals do not necessarily have a direct bearing on the management level or the amount of work done by the family. They do not always correlate with the farm's profit for a particular year either. In addition, there is also not always an accurate indication of how much these withdrawals amounted to in the course of the year. The full extent of these usually only becomes clear when the financial statements are drawn up. Consequently

there are many questions about whether the farm can afford all these expenses on the one hand, whether the producer and his family have been properly compensated for the management and/or labour on the other hand, particularly when the profit of the farm is under pressure.

## WITHDRAWALS AS OPPOSED TO PROFIT

**Graph 1** shows the withdrawals and net farming income (NFI) of 18 of Computus Bestuursburo's participating producers in the eastern Free State. According to this, there has been no link between the withdrawals and the NFI of this group of producers over the past ten years. The NFI varied a lot and was as low as R95/ha and as high as R2 656/ha over the period. The withdrawals show a gradual increase over the ten years from R192/ha in 2010 to R309/ha in 2019.

**Graph 1: Withdrawals and net farming income over a period of ten years.**



Source: Computus Bestuursburo

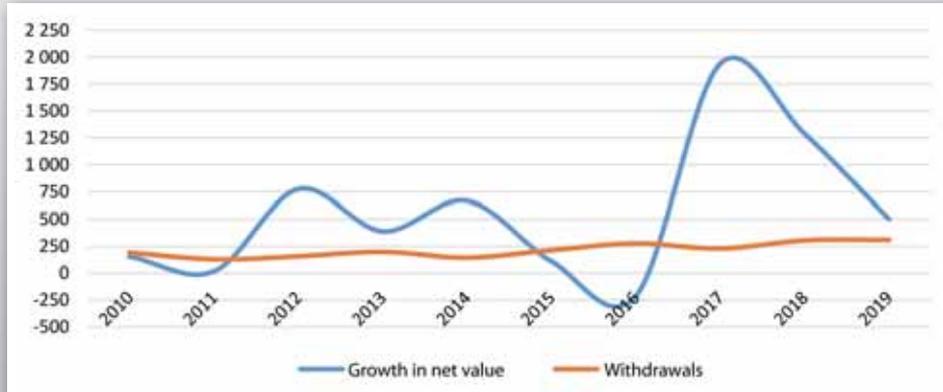
## AFFORDABLE

If the producer's skills, market-relatedness and experience, which should determine his remuneration, are taken into account, his cost of living is an expense to the farm. The final question will therefore be whether the farm can afford his personal withdrawals.

**Graph 2** shows that the growth in net value, in other words NFI less repayment of loan capital and plus or minus non-farming income and expenditure, was still positive over the period of ten years, with the exception of 2011 and 2016. This amounted to an average of R563/ha over this period, compared to the R215/ha of private withdrawals, which means that value could still be added to the balance sheet after the cost of living of the producer and his family had been covered.

## Can your farm...

Graph 2: Withdrawals and the growth in net value over a period of ten years.



Source: Computus Bestuursburo

### ECONOMIC VALUE

How much is a producer really worth to his farm then? According to the personnel agency Michael Page Recruitment, a financial manager on average earns R846 050 per annum, a human resources manager earns R595 259 per annum and a production manager R757 592 per annum. A marketing manager can earn between R802 261 and R1 751 000 per annum.

The salary of a producer has been adapted to make provision for fringe benefits like a house, servant, electricity and a car, for which the farm usually pays. With all this included, the remuneration of the group of producers amounted to R709 169 per annum. The group of producers in the Eastern Free State on average annually earned more than a production and a human resources manager, but less than a financial or marketing manager.

Scan the QR code to read the complete article of dr Philip Theunissen.



Dr Philip Theunissen, accountant and agricultural economist, Computus Bestuursburo



An aerial photograph of a lush green agricultural field, showing a tractor and plow working in the center. The field is divided into rows by furrows. A large orange curved graphic element is on the right side, and a red curved graphic element is on the bottom left side.

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As a partner in agriculture for over 100 years, Absa AgriBusiness understands that the soil connects us. It is the lifeblood that feeds our communities, opening doors to endless possibilities for shared economic growth. That is why farmers rely on us for supporting their planning and transforming their farming communities.

Absa has deep experience in developing tailored, world-class business solutions for all commodities in this sector. We understand agricultural businesses and the challenges they face. That is why we offer banking products and services that our clients need, from feeding to breeding.

We make managing your business easier by nurturing the crops that feed millions and stimulating the advancement of competitive new sector development. For Absa AgriBusiness, investing in our farming communities means investing in the livelihoods of our people, thereby growing and sustaining our economy.

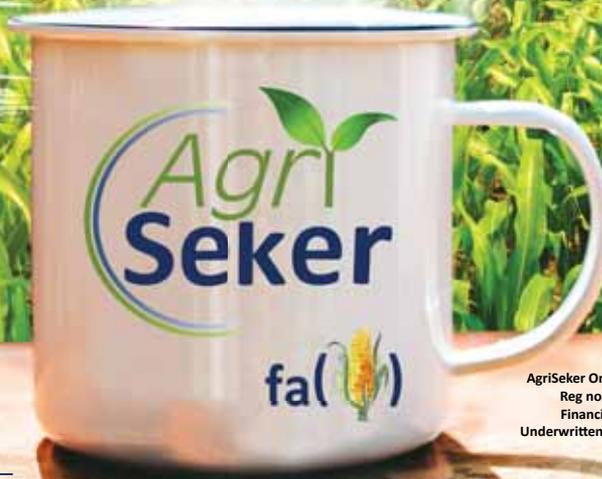
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**W**e know a farmer likes to enjoy fresh, piping-hot farm coffee with those closest to him. Thank you for the welcoming reception received by our intermediaries and assessors on the farm every time, because that makes us feel like family. Talking of family – accessibility, open communication and vibrant service are intertwined with how the AgriSeker family does things.

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- ▼ **The Ombudsman for Long-term Insurance** mediates in disputes between insurers and policy holders (life assurance). See [www.ombud.co.za](http://www.ombud.co.za).
- ▼ **The Ombudsman for Banking Services:** [www.obssa.co.za](http://www.obssa.co.za).
- ▼ **Credit OMBUD:** [www.creditombud.org.za](http://www.creditombud.org.za).
- ▼ For investment problems, talk to the **Financial Sector Conduct Authority**. Their website is [www.fsca.co.za](http://www.fsca.co.za).
- ▼ **National Consumer Commission:** [www.thencc.gov.za](http://www.thencc.gov.za).
- ▼ The **Fiduciary Institute of South Africa (FISA)** is a self-regulating body for matters such as wills, trusts and estate planning. See <http://fidsa.org.za>.
- ▼ If there is something bothering you about your medical scheme, the **Registrar for Medical Schemes** is the one. Visit [www.medicalschemes.com](http://www.medicalschemes.com).
- ▼ **Pension Funds Adjudicator:** [www.pfa.org.za](http://www.pfa.org.za).

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# MEET OUR NEDBANK AGRIBUSINESS SPECIALISTS.

Nedbank Agric's national head and two divisional managers are all agribusiness specialists, with Maluta Netshaulu, our Senior Manager in the Client Value Proposition team.



**John Hudson**  
National Head, Agriculture

John grew up on a farm in KwaZulu-Natal and graduated from the former University of Natal (Pietermaritzburg) with an Honours degree in Agricultural Management, majoring in Agricultural Economics and Agricultural Production. John is passionate about agriculture and has been involved in agricultural finance since 1991. He joined Nedbank in September 2010 and under the guidance of the Business Banking leadership and together with an energetic and focused Agric team, Nedbank Agriculture has become an established player in the agricultural market.

'The growth achieved in our agricultural client base has been phenomenal and incredibly inspiring. Agriculture has a vital role to play in the development of our country as we strive to build an inclusive agric sector that is resilient, vibrant, internationally competitive and contributes positively to the broader economy. Agriculture is the lifeblood of our rural communities and is vitally important from an employment and food security perspective, both at a national and household level. Using our core business of lending to drive change and structuring financial solutions for our farmers and agribusinesses are pivotal in unlocking this potential. This is what makes agricultural finance so special: It has the ability to make a real and significant difference to so many people's lives.'

Daneel has a BAgric degree from Stellenbosch University, majoring in Agricultural Economics, with a focus on wine and table grape production. He joined Nedbank in 2011 with 21 years of agriculture banking experience behind him. 'Coming from a farming

background, I always had a passion for agricultural finance, as did my father whose career was with the Land Bank,' says Daneel.



**Daneel Rossouw**  
Nedbank Agric Divisional Manager

'Joining Nedbank was extremely motivating for me as it offered the opportunity to be part of creating and leading our agric-specific focus, which has enjoyed such good growth over the past couple of years. Farming is highly complex, and, on top of this, farmers are also business people operating in the agricultural field. I thoroughly enjoy the discussions with farmers around the outlook for agriculture, and how they always seem to find solutions to the many challenges they face. They are innovative, proactive and it is just great to be able to add real value to their businesses.'



**Cobus de Bruyn**  
Nedbank Agric Divisional Manager, Gauteng, North West, Mpumalanga and Limpopo

Cobus has a BSc Agric Honours degree, majoring in Agricultural Economics from the University of Pretoria. He joined Nedbank in 2010 and has 27 years of experience in agricultural finance. 'My father owned a farm in Marble Hall and my interest in agriculture and agricultural finance developed from there. Through our whole-view banking approach we look at money differently, and through good conversations with our clients we ensure that we use our experience and insight to provide the right solutions to our clients. We inherently understand the risks and the opportunities in the sector, and we also have considerable expertise in the agricultural export business.

What is so appealing about farming is that it is literally a living, growing industry where you can see seeds grow and calves being born, and where you closely experience nature.'



**Maluta Netshaulu**  
Nedbank Client Value Proposition Senior Manager

Rising thought leader Maluta Netshaulu is emerging swiftly as a key voice in the transforming agriculture sector, championing change as well as highlighting critical challenges such as food security and climate change. A husband and father of two from Venda, the former homeland now part of Limpopo, Maluta is a senior manager for agriculture at Nedbank Business Banking and is responsible for client value proposition. 'As money experts committed to doing good, we listened to the concerns of clients and came up with a solution that can help. As such, shade netting is a sustainable cover protecting horticultural crops from hazardous elements,' he says. 'As we are a bank committed to using our financial expertise to grow the economy and create jobs, Nedbank Agriculture's shade-netting finance solution is in line with our purpose of helping clients 'see money differently', and this is really an innovative opportunity to employ expertise for the benefit of farmers in a sustainable way,' says Maluta, who holds a BCom Honours degree in Agricultural Economics from the Stellenbosch University, as well as a BCom degree in Economics and Statistics from the University of Cape Town.

Our dedicated business managers are here to offer much-needed support during these tough times. Don't wait – email us at [agriculture@nedbank.co.za](mailto:agriculture@nedbank.co.za) to find out how we can help you.

see money differently

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# USEFUL web pages and Twitter handles

## GLOBAL WEB LINKS FOR INFORMATION AND PRICES

- ▼ Australian sorghum and canola prices:  
<http://www.asx.com.au/products/grains-derivatives/grains-reports.htm>
- ▼ CBOT futures prices:  
<http://www.cmegroup.com/trading/agricultural/index.html/>
- ▼ Dow Jones Industrial General Index:  
<http://www.google.com/finance?client=ob&q=INDEXDJX:DJI>
- ▼ FAO Global Information and Early Warning System:  
<http://www.fao.org/GIEWS/english/index.htm>
- ▼ World Agricultural Supply and Demand Report: (WASDE):  
<http://www.usda.gov/oce/commodity/wasde/>
- ▼ FAO Food Price Index:  
<http://www.fao.org/worldfoodsituation/foodpricesindex/en/>
- ▼ Maize: <http://www.scoop.it/t/maize>
- ▼ USDA weekly crop progress report:  
<https://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1048>
- ▼ AgWeb: <https://www.agweb.com/markets/>
- ▼ Agrimoney: <http://www.agrimoney.com/5/corn/>
- ▼ World Grain.com: <http://www.world-grain.com/>
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<http://www.newsnw.co.uk/h/Industry+Sectors/Agriculture/Agricultural+Commodities>
- ▼ Bloomberg Markets:  
<https://www.bloomberg.com/markets/commodities/futures/agriculture>

## LOCAL WEB LINKS FOR INFORMATION AND PRICES

- ▼ Grain SA: [www.grainsa.co.za](http://www.grainsa.co.za)
- ▼ SAGIS: [www.sagis.org.za](http://www.sagis.org.za)
- ▼ SAGL: [www.sagl.co.za](http://www.sagl.co.za)
- ▼ Protein Research Foundation:  
<https://www.proteinresearch.net/>
- ▼ NAMC supply and demand reports:  
<https://www.namc.co.za/category/research-publications/supply-demand-estimates/>

## Useful web pages...

### WEATHER FORECAST

Weather Outlook: <http://www.wxmaps.org/pix/prec10.html>

Weather Outlook and rainfall data: <http://www.rmd.co.za/>

Weather Outlook: Ventusky:  
<https://www.ventusky.com/?p=-26.3;26.1;5&l=rain-3h>

SA Weather Service: <http://www.weathersa.co.za/>

YR Weather Outlook: [https://www.yr.no/place/South\\_Africa/](https://www.yr.no/place/South_Africa/)

Accuweather News:  
<https://www.accuweather.com/en/za/south-africa-weather>

### ECONOMIC INFORMATION

Finance 24: <http://www.fin24.com/#ticker>

Business Day: <http://www.businesslive.co.za/bd/>

Financial Mail: <http://www.financialmail.co.za/>

Live exchange rates:  
<https://www.oanda.com/currency/live-exchange-rates/>

Moneyweb: <https://www.moneyweb.co.za/>

Reuters: <http://www.reuters.com/>

Gold and Brent crude oil price: <http://www.fin24.com/Markets/>

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Dr Hendrik Smith	@Healthy_Soils
Grain SA	@GrainSA
Luan van der Walt	@Luan_vd_Walt
Wessel Lemmer	@WesselLemmer
Wandile Sihlobo	@WandileSihlobo
Agrimoney	@agrimoney
USDA	@usda
AMIS	@AMISoutlook
Tom Farms	@TomFarms
ABARES	@ABARES
Dalevest	@Dalevest_Live
BVG	@BVG_Trading
Dr Dirk Strydom	@StrydomDirk
Farm Futures	@FarmFutures (International Markets)

Luan van der Walt, economist: Grain SA



# ANIMALS

## CONTACTS

### INSTITUTION

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*admin@afma.co.za*  
 012 663 9097

**ARC-Irene Animal Production**  
*ULecuona@arc.agric.za*  
 012 672 9111

**ARC-Onderstepoort Veterinary Research**  
*ovi-info@arc.agric.za*  
 012 529 9111

**CropLife South Africa**  
*info@croplife.co.za*  
 087 980 5163

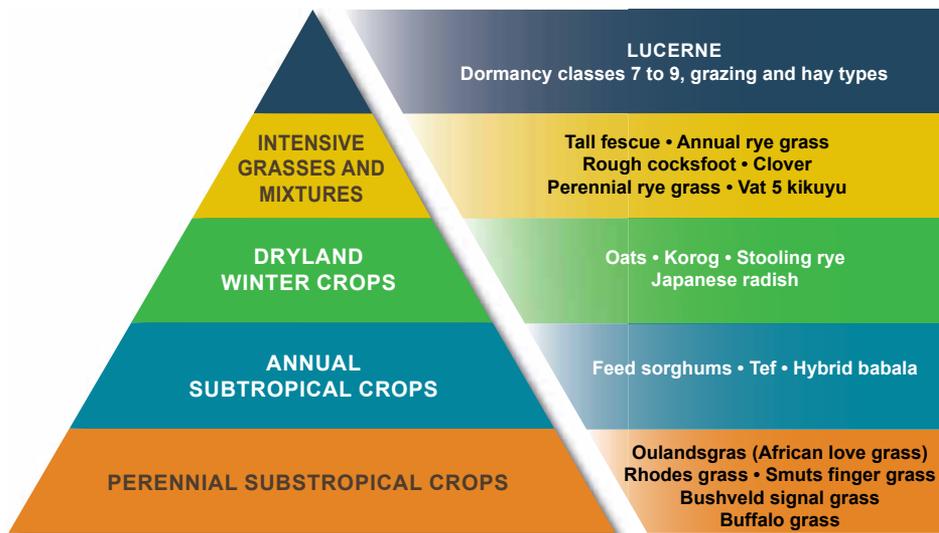
**National Wool Growers Association (NWDA)**  
*nwga@nwga.co.za*  
 041 365 5030

**Red Meat Producers Organisation (RPO)**  
*rpo@lantic.net*  
 012 349 1102

**South African Animal Health Association (SAAHA)**  
*info@saaha.co.za*  
 087 980 5164

# AN OVERVIEW OF feed crops

To any stock farmer the most important aspect of his farming activities is to ensure that the right quality and quantity of feed are available at all times. Feed flow planning is vital for making decisions regarding the crops to be planted and used. Every feed crop has its unique properties and growth curve. Adjust this to the stock flow and select the right crop.



## FEED CROPS

The properties of the different types of feed crops and the requirements for successful cultivation are summarised below for your convenience:

### Lucerne

This kind of feed crops is a high-quality feed with 18% to 20% crude protein and a high level of digestibility. Lucerne can be cultivated successfully under intensive high-production conditions under irrigation, or less intensively under dryland conditions. It is a strong perennial plant and will produce well for approximately six years and longer. Grazing and hay types are available.

### Intensive grasses and mixtures

This crop category is distinguished from others by the type of stock unit involved. The input costs for the crops are high. They MUST be well fertilised and planted under irrigation to achieve their genetic potential. To recover the high input costs, the grazing must be utilised with producing animals like dairy cows, weaners or sheep.

### Dryland winter crops

High-potential oats, triticale and stooling rye cultivars are available, as are cultivar packages that produce good-quality green feed in the critical late autumn, winter and spring months. The right choice of cultivar ensures green feed that produces sufficient grazing at the right time.

Green-feed cultivars, like wheat cultivars, are divided into spring, intermediary and winter types on the basis of their habit. Each of these types has its own utilisation method in a feed-flow programme. It is therefore important to take note of the properties of each of the types in order to utilise its top benefits.

### Perennial sub-tropical crops

These grazings are cultivated under semi-intensive conditions. They are summer crops and are dormant in winter. During the autumn months the grazings translocate nutrients from the leaves and stems to the roots. This enables the grass species to bud in spring and develop rapidly. In addition to the fact that each of these species has preferences with respect to soil, management and rainfall, each has properties that allow it to fit in perfectly with a specific system. The preferences as well as the properties of the crops must be considered before one can be selected.

### Annual sub-tropical crops

These crops establish and produce feed rapidly. Hybrid babala and feed-sorghum hybrids are used as grazing, silage, standing hay and/or green chop respectively.

Teff cultivars are not merely a commodity, but have been developed to give the producer a head start. Teff is an excellent hay crop and on average produces two cuttings per season.

Most of this information was obtained from Pannar. Visit their website at [www.pannar.co.za](http://www.pannar.co.za) or scan the QR code for direct access to their grazing production manuals and feed crop guide for different production systems.



Pietman Botha, agricultural consultant

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# GRAIN SA

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Grain SA

# GRAIN SA in a nutshell

**G**rain SA's vision is to provide South African grain producers with commodity-strategic support and services in order to ensure sustainability.

## GRAIN SA REPRESENTS THE FOLLOWING COMMODITIES



## CORE FOCUS AREAS

### 1 GRAIN ECONOMY AND MARKETING

Strategic focus



### 2 GRAIN RESEARCH AND POLICY CENTRE

Facilitate and co-ordinate grain and oilseed research and policy matters



# 3

## FARMER DEVELOPMENT

### Goals of the programme



To be leaders in true development and transformation



Improve farming skills through training and mentoring



Facilitate access to affordable modern production inputs



Coach farmers to attain higher yields



Increase and improve land use



Stimulate the rural economy



Give opportunity for self-employment and job creation



Increase crop production

## MANAGEMENT COMMITTEE

In order to deal with the daily affairs of Grain SA, the Executive elects from its ranks a management committee comprising a chairperson and two vice-chairpersons and additional members. The Management committee exercises all the powers of the Executive when the Executive and Congress are not in session, subject to such limitations as the Executive and/or Congress may impose on it from time to time.



**IN FRONT:** Sarel Haasbroek, Ramodisa Monaisa (vice-chairperson), Derek Mathews (chairperson), Richard Krige (vice-chairperson) and Willem Groothof  
**AT THE BACK:** Jannie de Villiers (chief executive officer), Jaco Breytenbach and Jeremia Mathebula

## EXECUTIVE

**S**ubject to Grain SA's constitution and in accordance with the regulations, the management of the affairs and all executive powers of Grain SA vest in the Executive.

**This is the highest authority when Congress is not in session and the Executive has, inter alia, the following powers and duties:**

**1** To make and amend regulations for the effective management of the affairs of Grain SA and that are in accordance with the constitution, and to present them to Congress for approval.

**2** To convene Congress annually and to report to Congress on the past year's activities, and to submit a financial report to Congress.

**3** To appoint committees or working groups and to delegate competencies to such committees or working groups and office-bearers.

**4** To appoint technical and professional advisers and officials to attend meetings of Grain SA, including Congress.

**5** To make recommendations to Congress concerning membership fees and commodity levies.

**6** To consider and approve or reject new members and to terminate a member's membership.

**7** To appoint capable office-bearers to represent Grain SA on the councils or boards of directors of companies or organisations.

A summary of Grain SA's elected Executive members for its 32 regions and/or representatives or co-opted members appears on pp. 113 - 121.



## REGION 1

### Marnus Bothma

[marnusbothma102@gmail.com](mailto:marnusbothma102@gmail.com)

Buhmannsdrif,  
Coetzersdam,  
Kameel, Louwna,  
Madibogo, Mafikeng,  
Mareetsane,  
Piet Plessis,  
Setlagole, Stella  
and Vryburg

## REGION 2

### Joseph du Plessis

[jozephd@worldonline.co.za](mailto:jozephd@worldonline.co.za)

Amalia, Migdol and  
Schweizer-Reneke

## REGION 3

### Deon Bergh

[admin@diepkuil.co.za](mailto:admin@diepkuil.co.za)

Bloemhof, Christiana,  
Hartswater,  
Jan Kempdorp,  
Leeudoringstad,  
Makwassie,  
Vaalharts,  
Warrenton and  
Wolmaransstad

## REGION 4

### Danie Reichel

[djreichel@nwisp.co.za](mailto:djreichel@nwisp.co.za)

Biesiesvlei,  
Groot-Marico,  
Lichtenburg,  
Rooigrond,  
Vermaas  
and Zeerust

## REGION 5

### Jan George Pretorius

[jangeorgepretorius@gmail.com](mailto:jangeorgepretorius@gmail.com)

Barberspan,  
Delareyville and  
Sannieshof

## REGION 6

### Niël Rossouw

[nielr@nwisp.co.za](mailto:nielr@nwisp.co.za)

Bospoort, Coligny,  
Hartbeesfontein,  
Klerksdorp, Orkney,  
Ottosdal and  
Stilfontein

## REGION 7

### Sarel Haasbroek

[sarelh@cuny.co.za](mailto:sarelh@cuny.co.za)

Carletonville,  
Derby, Fochville,  
Koster, Krugersdorp,  
Randfontein,  
Rysmierbult,  
Swartruggens,  
Syferbult, Tarlton,  
Ventersdorp  
and Westonaria

## REGION 8

### Joseph Swanepoel

[josephs@obaro.co.za](mailto:josephs@obaro.co.za)

Brits, Dwaalboom,  
Lephalale, Hammanskraal,  
Koedoeskop, Magalies-  
burg, Northam, Pretoria,  
Rustenburg and  
Thabazimbi

**REGION 9**



**Kallie Schoeman**  
kallie@witklip.co.za

Balfour, Balmoral, Bronkhorstspuit, Cullinan, Delmas, Devon, Edenvale, Eloff, Greylingstad, Grootlei, Heidelberg, Kempton Park, Kendal, Nigel, Ogies, Rayton, Springs and Sunda

**REGION 11**



**Gerrit Roos**  
gloos@gmail.com

Anot, Belfast, Blinkpan, Hendrina, Kaapmuiden, Komatiport, Laersdrif, Lydenburg, Machadodorp, Middelburg, Nelspruit, Ohrigstad, Steelpoort, Stoffberg, Waterval-Boven, Witbank, Witrivier and Wonderfontein

**REGION 13**



**Willem Groothof**  
willem@willand.co.za

Alldays, Alma, Bela-Bela, Dendron, Groblersdal, Haenertsburg, Makhado, Marble Hall, Modimolle, Mokopane, Mookgophong, Pienaarsrivier, Polokwane, Radium, Roedtan, Settlers, Tuinplaas and Vaalwater

**REGION 10**



**Ryk Pretorius**  
rykpretorius@gmail.com

Amersfoort, Amsterdam, Badplaas, Barberton, Breyten, Carolina, Chrissiesmeer, Davel, Ermelo, Iswepe, Morgenzon, Perdekop, Volksrust and Wakkerstroom

**REGION 12**



**Rudolf Fourie**  
r.fourie.kwagga@gmail.com

Bethal, Charl Cilliers, Kinross, Kriel, Leandra, Leslie, Platrand, Secunda, Standerton and Trichardt

**REGION 14**



**Ralf Küsel**  
kusefarming@gmail.com

Bergville, Bloedrivier, Colenso, Dannhauser, Dundee, Eshowe, Estcourt, Glencoe, Greytown, Harding, Kokstad, Kranskop, Ladysmith, Matatiele, Melmoth, Mooirivier, New Hanover, Newcastle, Normandien, Paulpietersburg, Piet Retief, Pietermaritzburg, Sheepmoor, Underberg, Utrecht, Vryheid and Winterton



**REGION 15**  
**Paul Zietsman**  
*paulziets@vodamail.co.za*  
 Cornelia, Frankfort, Memel, Oranjeville, Tweeling, Villiers and Vrede



**REGION 16**  
**Jaap van der Westhuizen**  
*jaap@cairogroup.co.za*  
 Deneysville, Heilbron, Koppies, Meyerton, Parys, Sasolburg, Vanderbijlpark, Vereeniging and Vredefort



**REGION 17**  
**Paul Corver**  
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 Aberfeldy, Bethlehem, Clarens, Daniëlsrus, Harrismith, Kestell, Paul Roux, Slabberts, Verkykerskop and Warden



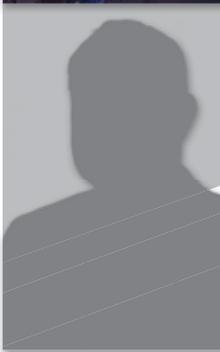
**REGION 18**  
**Neil Claassen**  
*cjccado@yahoo.com*  
 Arlington, Lindley, Petrus Steyn and Reitz



**REGION 19**  
**Jaco Breytenbach**  
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 Aliwal-Noord, Clocolan, Excelsior, Ficksburg, Fouriesburg, Hobhouse, Ladybrand, Marquard, Senekal, Smithfield, Thaba Nchu, Tweespruit and Verkeerdevlei



**REGION 20**  
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 Bloemfontein, Boshof, Brandfort, Bultfontein, Dealesville, Dewetsdorp, Hertzogville, Reddersburg and Winburg



**REGION 21**  
**Vacant**  
 Hoopstad and Wesselsbron



**REGION 22**  
**Willie Marais**  
*williemarais77@gmail.com*  
 Allanridge, Edenville, Hennenman, Kroonstad, Odendaalsrus, Steynsrus, Theunissen, Ventersburg, Virginia and Welkom



Grain SA's executive...



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[vanco@telkom.co.za](mailto:vanco@telkom.co.za)  
Potchefstroom,  
Vierfontein and  
Viljoenskroon



**REGION 24**  
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Bothaville



**REGION 25**  
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Fauresmith, Groblershoop,  
Hopetown, Jacobsdal,  
Jagersfontein, Kenhardt,  
Kimberley, Koffiefontein,  
Luckhoff, Petrusburg,  
Petrusville, Philippolis,  
Prieska, Springfontein,  
Trompsburg,  
Upington and  
Vanderkloof



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Hopesfield, Malmesbury,  
Montagu, Piketberg,  
Robertson,  
Vanrhynsdorp,  
Vredenburg,  
Vredendal and  
Worcester



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Riviersonderend and  
Swellendam



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 and Mbombela



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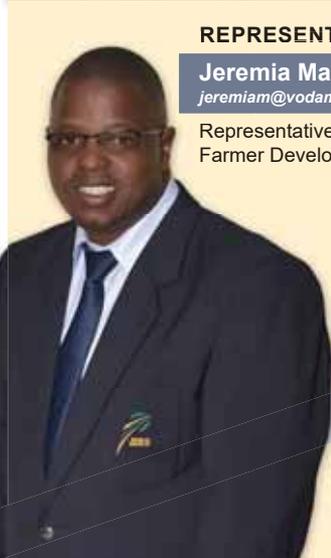
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 George, Harold,  
 Hartenbos, Heidelberg  
 (Cape), Knysna,  
 Mosselbaai,  
 Oudtshoorn,  
 Riversdal and  
 Suurbraak



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 and Mithatha



**REPRESENTATIVE**  
**Jeremia Mathebula**  
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 Representative:  
 Farmer Development

# CHAIRPERSONS of Specialist Working Groups and committees



**Richard Krige**

Winter Grain Working Group  
Marketing Working Group



**Derek Mathews**

Maize Working Group  
Remuneration Committee



**Ramodisa Monaisa**

Farmer Development



**Ralf Küsel**

Sunflower and Soybean Working Group



**Danie Minnaar**

NAMPO Harvest Day Committee



**Jaco Breytenbach**

Editorial Working Group



**Willem Groothof**

Sorghum Working Group



**Willie Botha**

Barley (Northern Barley Commodity Committee)



**André Kirsten**

Production/Input Working Group  
Lupine Specialist Committee  
Alternative Crops Working Group



**Gerhard Bruwer**

Groundnuts Working Group



**Koos Blanckenberg**

Canola Working Group



**Jose de Kock**

Barley (National Barley Commodity Committee)  
(Southern Barley Commodity Committee)



**André Hanekom**

Audit Committee

# GRAIN SA carries GRAIN and OILSEED FLAG industry-wide

(as at 4 November 2020)

## TRUSTS

### MAIZE TRUST

#### White maize

Derek Mathews  
Ramodisa Monaisa  
Chris Schoonwinkel

#### Yellow maize

Derek Mathews  
Ramodisa Monaisa  
Chris Schoonwinkel

### OIL AND PROTEIN SEEDS DEVELOPMENT TRUST (OPDT)

#### Commercial Producers

Ralf Küsel (Primarius)  
Rudolf Fourie (Secundus)

#### Developing Producers

Ramodisa Monaisa (Primarius)  
Jeremia Mathebula (Secundus)

### SORGHUM TRUST

#### Commercial Producers

Willem Groothof

#### Developing Producers

Ramoso Pholo

### WINTER CEREAL TRUST

#### Wheat

Richard Krige

#### Barley

Jannie de Villiers

### SASOL RESEARCH TRUST

Jaco Breytenbach  
Jannie de Villiers  
Ramoso Pholo

### WESTERN CAPE AGRICULTURAL RESEARCH TRUST

Richard Krige



## FORUMS

### OILSEED FORUMS

#### Sunflower and Soybean Forum

Jozeph du Plessis  
Ralf Küsel  
Israel Mothabane (Secundus)

#### Groundnut Forum

Gerhard Bruwer (Primarius)  
Jan George Pretorius (Secundus)

### SORGHUM FORUM

Willem Groothof (Primarius)  
Jaap van der Westhuizen (Secundus)

### WHEAT FORUM

Richard Krige (Primarius)  
Jannie de Villiers (Secundus)

#### Steering Committee of the Wheat Forum

Jannie de Villiers  
Dr Dirk Strydom (Secundus)

### MAIZE FORUM

Chairperson of Working Group (Primarius):  
To be designated by Working Group  
Jannie de Villiers (Secundus)

#### Steering Committee of the Maize Forum

Jannie de Villiers (Primarius)  
Dr Dirk Strydom (Secundus)



## Grain SA carries grain and oilseed flag...

### ADVISORY COMMITTEES/TECHNICAL COMMITTEES (RESEARCH)

#### ***OILSEEDS ADVISORY COMMITTEE (OAC) FOR OILSEED TRUST***

##### **Commercial Producers**

Rudolf Fourie (Primarius)  
Ryk Pretorius (Secundus)

##### **Developing Producers**

Israel Motlhabane (Primarius)  
Jeremia Mathebula (Secundus)

##### **Priority Committee**

Dr Marinda Visser

#### ***TECHNICAL COMMITTEES WINTER GRAIN FOR THE WINTER GRAIN TRUST***

##### **Wheat Technical Committee**

Richard Krige  
Andries Theron

##### **Observers**

Dr Marinda Visser  
Jose de Kock

##### **Barley Technical Committee**

Richard Krige  
RD Erasmus (Observer)

##### **SABBI (Barley research)**

RD Erasmus  
Dr Dirk Strydom  
Richard Krige

### PROVINCIAL FARMER UNIONS

#### ***FREE STATE AGRICULTURE***

##### **General Council**

Marius Groenewald (Primarius)  
Neil Claassen (Secundus)

#### ***AGRI WESTERN CAPE***

##### **Commodity Chamber**

André Kirsten (Primarius)  
Alfreda Mars (Secundus)

#### ***KWAZULU-NATAL AGRICULTURAL UNION (KWANALU)***

##### **General Council**

Ralf Küsel (Primarius)

#### ***AGRI LIMPOPO***

##### **General Council**

Willem Groothof

#### ***MPUMALANGA AGRICULTURE***

##### **General Council**

Ryk Pretorius (Primarius)  
Mussa Thomas Sibiya (Secundus)

#### ***AGRI EASTERN CAPE***

##### **General Council**

Patrick Stuurman (Primarius)  
Luke Collier (Secundus)

#### ***AGRI NW***

##### **General Council**

Danie Reichel (Primarius)  
Ramoso Pholo (Secundus)  
Deon Bergh (Secundus)

#### ***AGRI GAUTENG***

##### **General Council**

Sarel Haasbroek

#### ***AGRI NORTHERN CAPE***

##### **Executive Committee**

Gerhard Bruwer

#### ***TAU SA***

##### **General Council**

Gerrit Roos (Primarius)  
Joseph Swanepoel (Secundus)

**BOARD OF DIRECTORS**

Jaco Minnaar

**COMMODITY CHAMBER**

Chairperson (Derek Mathews)  
CEO (Jannie de Villiers)

**CENTRES OF EXCELLENCE ("COE")**

**Natural Resources**

Jeremia Mathebula  
Sarel Haasbroek  
Joseph Swanepoel

**Land**

Jannie de Villiers  
Derek Mathews  
Ramodisa Monaisa

**Rural Safety**

Stephen Krüger

**Labour and Development**

Coretha Usher

**Economy and Trade**

Jannie de Villiers

**OTHER COMMITTEES AND DIRECTORSHIPS**

**SAGL**

**Wheat:** Vacant

**Maize:** Jannie de Villiers

**Soybeans:** Gerrit Roos

**Alternate Director:** Jaap van der Westhuizen

**SAFEX ADVISORY COMMITTEE (JSE)**

Joseph du Plessis (Primarius)  
Dr Dirk Strydom (Secundus)  
Luan van der Walt (Secundus)  
Richard Krige (Secundus)  
Gerrit Roos (Secundus)

**SA CULTIVAR AND TECHNOLOGY AGENCY (SACTA)**

Joseph du Plessis (Director)  
Corné Louw (Director)

**SOYA PNS WORKING GROUP**

Dr Dirk Strydom  
Corné Louw

**CANOLA PNS WORKING GROUP**

Dr Dirk Strydom  
Corné Louw

**AGRICULTURAL ACADEMIC BOARD: HIGH SCHOOL REITZ**

Neil Claassen

**ALENTI BODY CORPORATE**

Nico Vermaak

**SAAMKOOP NPC**

Derek Mathews  
Richard Krige  
Jannie de Villiers

**PHAHAMA GRAIN PHAKAMA NPC**

Derek Mathews  
Ramodisa Monaisa  
Richard Krige  
Jaco Breytenbach  
Jeremia Mathebula

Willem Groothof  
Sarel Haasbroek  
1 x independent director

**NAMPO COMMERCIAL (PTY) LTD**

Derek Mathews  
Ramodisa Monaisa  
Richard Krige  
Jaco Breytenbach

Jeremia Mathebula  
Willem Groothof  
Sarel Haasbroek

**NAMPO GEBOUW (PTY) LTD**

Derek Mathews (Chairperson)  
Richard Krige (Vice-chairperson)  
Jannie de Villiers (CEO of Grain SA)

**COMMERCIAL WINTER GRAIN PRODUCERS TRUST**

Richard Krige  
André Kirsten  
Jaco Breytenbach  
Joseph Swanepoel  
Jannie de Villiers

**COMMERCIAL MAIZE PRODUCERS RESEARCH TRUST**

Derek Mathews  
Jannie de Villiers  
Jaco Minnaar  
Chris Schoonwinkel  
Stephen Krüger



Converting risk into sustainable wealth



### THE TRADITIONAL WAY

Businesses make use of conventional methods to manage their risks that they have generally not considered insurable. For example, using retained earnings to cover potential future losses. It is likely that premiums paid will exceed claims received during the average lifetime of a business, for other insurable risks.

### THE CORPORATE GUARANTEE WAY

The Corporate Guarantee Alternative Risk Transfer product is an alternative to conventional insurance policies. We assist you in converting risks into sustainable wealth by making use of a pre-tax risk management fund. Corporate Guarantee also provides 20% additional risk transfer on all policies. This risk management fund will offer long and short term advantages that will give your business a second breath during the downside of your business cycle and the best chance of survival in case of a catastrophic event.

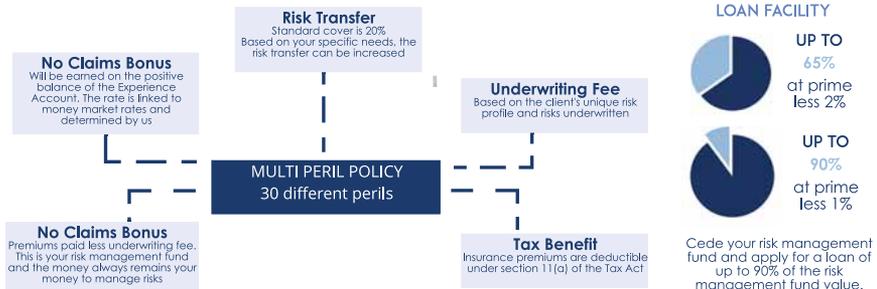
#### TRADITIONAL COVER ALLOCATION



#### THE CORPORATE GUARANTEE WAY



- Replace your retained earnings with a pre-tax risk management fund.
- Retain more earnings for managing risks.
- Receive an additional 20% risk transfer from Corporate Guarantee in Catastrophic events.



Please contact Ion Gerber for additional benefits offered exclusively to Grain SA members

TEL | +27 (11) 787 9019

CELL | +27 (82) 574 3890

EMAIL | [info@corporateguarantee.co.za](mailto:info@corporateguarantee.co.za)

WEBSITE | [www.corporateguarantee.co.za](http://www.corporateguarantee.co.za)

Authorised Financial Service Provider FSP number: 19756



Grain SA

2021 GRAIN Guide

**S** A *Graan/Grain* is a specialist publication that offers readers the latest agriculture information that is based on relevant research and expertise. As the official mouthpiece of Grain SA, this monthly magazine is regarded as one of the leading agriculture publications.

The online platform, [www.sagrainmag.co.za](http://www.sagrainmag.co.za), grew enormously in 2020, attracting 3 531 unique visitors and 13 473 views per month. *SA Graan/Grain* articles are written by well-known scientists, academics, researchers, agricultural economists, experts in the industry and professional journalists and are also available on this website every month.

The online archives offer visitors the opportunity to read valuable articles in previous editions. There are also various subscription options so that you can receive the latest *SA Graan/Grain* in your post box or by email.

**To make sure that we cover every aspect of grain and oilseeds farming, we focus on specific themes every month.**

<b>FEBRUARY</b>	Mini focus on groundnuts
	Mini focus on canola
<b>MARCH</b>	Focus on seed
	Mini focus on weed control in winter cereals
	Cultivar supplement (summer grains)
<b>APRIL</b>	Focus on NAMPO Harvest Day
<b>MAY</b>	Mini focus on financial services and money
<b>JUNE</b>	Looking back at NAMPO Harvest Day
	Focus on grain value chain
	Mini focus on universities and educational institutions
<b>JULY</b>	Focus on fertiliser
	Mini focus on lime
<b>AUGUST</b>	Focus on implements and equipment
	NAMPO Cape supplement
<b>SEPTEMBER</b>	Focus on integrated pest control
	Mini focus on soybeans
	Spotlight on sorghum
	NAMPO Alfa supplement
<b>OCTOBER</b>	Focus on irrigation
	Cultivar supplement (winter grains)

<b>NOVEMBER</b>	Spotlight on cover crops
	Grain producer awards
	Spotlight on vehicles
<b>DECEMBER/ JANUARY</b>	Focus on Grow for Gold
	Spotlight on winter grains
	Spotlight on solar power
	Grain Guide 2022



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# How to become a **GRAIN SA MEMBER**

**G**rain SA is an autonomous and voluntary industry organisation. It acts collectively in the interest of the economic welfare of the grain producers of South Africa and it is the combined voice of grain producers to address commodity matters and issues with the government and other role-players in the industry.

## HOW IS MEMBERSHIP OBTAINED?

Complete the authorisation form which is available on Grain SA's webpage or scan the QR code below:



As soon as Grain SA has received the authorisation form, it is handed to the collection agent concerned to deduct the levy and the producer is registered on the system as a member.

**Linked members:** If more than one person is involved in a farming operation, such persons can function as linked members.



## WHO CAN I BECOME A MEMBER OF GRAIN SA?

- ▼ Ordinary members (natural persons), trusts and any legal entities who produce grain for marketing.
- ▼ Persons who pay the prescribed membership fee and commodity levy to Grain SA.
- ▼ Any person who underwrites the objectives of Grain SA.

## WHAT DOES MEMBERSHIP OF GRAIN SA OFFER ME AS PRODUCER?

- ▼ A mouthpiece for the producer which ensures that the regulatory environment functions effectively on all levels.
- ▼ Regular and timeous information on production conditions.
- ▼ Daily market reports via email.
- ▼ Biweekly newsletter with relevant information.
- ▼ Access to advice with regards to the diesel rebate.
- ▼ Access to experts with regards to input, production and the market environment.
- ▼ Input quality monitoring, e.g. fertiliser.
- ▼ Continuous input monitoring locally and internationally.
- ▼ Obtain information with regards to the most recent research, technological developments and production practices which will ensure effective and profitable production.
- ▼ Obtain information with regards to the local and international market and trade environments.
- ▼ Become part of the NAMPO Harvest Day, and familiarise yourself with the most recent agricultural products, technology and services. All input providers are on the same premises.
- ▼ Guaranteed research and development.
- ▼ Becoming a member of Grain SA also entitles you to gain access to a tax-free investment by Corporate Guarantee (see page 122).



## HOW IS THE LEVY COLLECTED?

The commodity levy is collected in two ways:

### 1 Collection agents

Grain SA has concluded agreements with agricultural businesses and other grain off-takers in terms of which these institutions, for an agency fee of 5%, collect the commodity levy for Grain SA as collection agents. This makes it easy for producers to ensure that their commodity levy is paid over. The levy per ton is collected on all grains at the first point of delivery and the collection agent will only deduct the levy as long as the member agrees to this.

### 2 Direct deposit

- ▾ A member can pay the commodity levy to Grain SA by means of a cheque, a direct deposit at the bank or an electronic transfer.
- ▾ Members who make direct or electronic deposits must email the proof of payment plus the member's details to **Patricia Zimu** at [patricia@grainsa.co.za](mailto:patricia@grainsa.co.za).

#### GRAIN SA'S ACCOUNT DETAILS ARE AS FOLLOWS:

**ACCOUNT HOLDER:** GRAIN SA

**BANK:** ABSA

**ACCOUNT NUMBER:** 790 810 007

**BRANCH CODE:** 334136

(632005 ELECTRONICALLY)

## How to become a member...

### COLLECTION AGENTS



Grain SA

2021  
GRAIN  
Guide





# GENERAL

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# CONTACTS: GENERAL

## ORGANISED AGRICULTURE

INSTITUTION	EMAIL	NUMBER
Grain SA	<a href="mailto:info@grainsa.co.za">info@grainsa.co.za</a>	086 004 7246
Potatoes South Africa	<a href="mailto:info@potatoes.co.za">info@potatoes.co.za</a>	012 349 1906
African Farmers Association of South Africa (AFASA)	<a href="mailto:info@afasa.org.za">info@afasa.org.za</a>	012 943 7290
Agbiz	<a href="mailto:admin@agbiz.co.za">admin@agbiz.co.za</a>	012 807 6686
Agri Gauteng	<a href="mailto:evanniekerc@agrisa.co.za">evanniekerc@agrisa.co.za</a>	012 643 3400
Mpumalanga Agriculture	<a href="mailto:makgophola@mpg.gov.za">makgophola@mpg.gov.za</a>	013 766 6020
Agri Limpopo	<a href="mailto:info@limag.co.za">info@limag.co.za</a>	015 307 2725
Agri Northern Cape	<a href="mailto:ontvangs@agrink.co.za">ontvangs@agrink.co.za</a>	053 832 9595
Agri NW	<a href="mailto:wanda@agrinw.co.za">wanda@agrinw.co.za</a>	018 632 3612
Agri Eastern Cape	<a href="mailto:natasja.barkhuizen@agriec.co.za">natasja.barkhuizen@agriec.co.za</a>	041 363 1890
Agri SA	<a href="mailto:agrisa@agrisa.co.za">agrisa@agrisa.co.za</a>	012 643 3400
Agri Western Cape	<a href="mailto:ilana@awk.co.za">ilana@awk.co.za</a>	021 860 3800
KwaZulu-Natal Agricultural Union (KWANALU)	<a href="mailto:info@kwanalu.co.za">info@kwanalu.co.za</a>	033 342 9393
Milk Producers' Organisation (MPO)	<a href="mailto:chris@mpo.co.za">chris@mpo.co.za</a>	012 843 5600
Transvaal Agricultural Union (TAU SA)	<a href="mailto:navrae@tlu.co.za">navrae@tlu.co.za</a>	012 804 8031
Free State Agriculture	<a href="mailto:nellie@vslandbou.co.za">nellie@vslandbou.co.za</a>	051 444 4609

## GOVERNMENT

INSTITUTION	EMAIL	NUMBER
Department of Agriculture, Rural Development and Land Reform	<a href="mailto:info@daff.gov.za">info@daff.gov.za</a>	012 319 6000
Department of Environmental Affairs	<a href="mailto:callcentre@environment.gov.za">callcentre@environment.gov.za</a>	086 111 2468
Department of Health	<a href="mailto:minister@health.gov.za">minister@health.gov.za</a>	012 466 7260
Department of Labour	<a href="mailto:dol.customer@labour.gov.za">dol.customer@labour.gov.za</a>	012 309 4000
Department of Mineral Resources	<a href="mailto:samradonline@dmr.gov.za">samradonline@dmr.gov.za</a>	012 444 3000
Department of Science and Innovation	<a href="mailto:webmaster@dst.gov.za">webmaster@dst.gov.za</a>	012 843 6300
Department of Tourism	<a href="mailto:callcentre@tourism.gov.za">callcentre@tourism.gov.za</a>	012 444 6000
Department of Trade and Industry	<a href="mailto:ministry@economic.gov.za">ministry@economic.gov.za</a>	086 184 3384
Department of Transport	<a href="mailto:info@dot.gov.za">info@dot.gov.za</a>	012 309 3774
Department of Water and Sanitation	<a href="mailto:info@dwa.gov.za">info@dwa.gov.za</a>	012 336 7500
Eastern Cape provincial government	<a href="mailto:ndlelantle@gcis.gov.za">ndlelantle@gcis.gov.za</a>	043 722 2602
Free State provincial government	<a href="mailto:premier@fspremier.gov.za">premier@fspremier.gov.za</a>	051 405 5942
Gauteng provincial government	<a href="mailto:deborah.tshivasa@gauteng.gov.za">deborah.tshivasa@gauteng.gov.za</a>	011 355 6000
Independent Police Investigative Directorate (IPID)	<a href="mailto:complaints@ipid.gov.za">complaints@ipid.gov.za</a>	012 399 0000
Industrial Development Corporation (IDC)	<a href="mailto:callcentre@idc.co.za">callcentre@idc.co.za</a>	011 269 3000

INSTITUTION	EMAIL	NUMBER
International Trade Administration Commission (ITAC)	<i>sxulu@itac.org.za</i>	012 394 3591
KwaZulu-Natal provincial government	<i>neli.mkhize@kznpremier.gov.za</i>	033 341 3310
Limpopo provincial government	<i>mathivak@premier.limpopo.gov.za</i>	076 961 9655
Mpumalanga provincial government	<i>molelekoan@mpg.gov.za</i>	013 766 2076
National Agricultural Marketing Council (NLBR)	<i>info@namc.co.za</i>	012 341 1115
National Crop Estimates Committee (NCEC)	<i>BaldwinN@daff.gov.za</i>	012 319 8454
North West provincial government (Bokone Bophirima)	<i>Bmohlakoana@nwpg.gov.za</i>	018 388 4968
Northern Cape provincial government	<i>info@ncpg.gov.za</i>	053 838 2600
Western Cape department of agriculture	<i>info@elsenburg.com</i>	021 808 5111
Western Cape provincial government	<i>magrietadl@elsenburg.com</i>	021 808 7613

## AGRICULTURAL RESEARCH COUNCIL (ARC)

INSTITUTION	EMAIL	NUMBER
Agricultural Research Council (ARC) Head Office	<i>enquiry@arc.agric.za</i>	012 427 9700
ARC-Grain Crops	<i>letlojanew@arc.agric.za</i>	018 299 6100
ARC-Soil, Climate and Water	<i>MailaM@arc.agric.za</i>	012 310 2648
ARC-Small Grain	<i>deweth@arc.agric.za</i>	058 307 3400
ARC-Tropical and Subtropical Crops	<i>infoitsc@arc.agric.za</i>	013 753 7000

## TRUSTS AND FOUNDATIONS

INSTITUTION	EMAIL	NUMBER
Maize Trust	<i>l-lopation@mweb.co.za</i>	012 807 3958
Oil and Protein Seeds Development Trust (OPDT)	<i>info@opot.co.za</i>	011 234 3400
Protein Research Foundation (PRF)	<i>pns@proteienresearch.net</i>	011 803 2579
Winter Cereal Trust	<i>thato@wctrust.co.za</i>	012 007 1200
SA Cultivar and Technology Agency (SACTA)	<i>sakkie@llagric.co.za</i>	012 807 3958

## OTHER

INSTITUTION	EMAIL	NUMBER
Arbitration Foundation of South Africa (AFSA)	<i>info@arbitration.co.za</i>	011 320 0600
South African Grain Information Service (SAGIS)	<i>info@sagis.org.za</i>	012 941 2050
SA Soy Food Association (SSA)	<i>info@ssa.org.za</i>	012 807 7600
SA Society for Crop Production (SASCP)	<i>admin@sascp.org.za</i>	018 299 6346
South African Grain Laboratory (SAGL)	<i>info@sagl.co.za</i>	012 807 4019
Bureau for Food and Agricultural Policy (BFAP)	<i>admin@bfap.co.za</i>	012 420 5021



## EMERGENCY NUMBERS

INSTITUTION	EMAIL	NUMBER
<b>FIRE</b>		
Fire Protection Association of South Africa (FPASA)	<i>reception@fpasa.co.za</i>	011 397 1619

## EDUCATION

INSTITUTION	EMAIL	NUMBER
Agri Sector Education and Training Authority (AgriSETA)	<i>info@agriseta.co.za</i>	012 301 5600
Cedara College of Agriculture (KwaZulu-Natal)	<i>college@kzndard.gov.za</i>	033 355 9304
Elsenburg College of Agriculture (Western Cape)	<i>maryj@elsenburg.com</i>	021 808 5111
Fort Cox College of Agriculture (Eastern Cape)	<i>admin@fortcox.ac.za</i>	040 653 8033
Glen College of Agriculture (Free State)	<i>louise@glen.agric.za</i>	049 802 6723
Grootfontein College of Agriculture (Eastern Cape)	<i>elanak@daff.gov.za</i>	049 802 6600
Madzivhandila College of Agriculture (Limpopo)	<i>madzivhandilacollege@gmail.com</i>	015 962 7200
North-West University	<i>studies@mynwu.info</i>	018 299 1111
Owen Sithole College of Agriculture (KwaZulu-Natal)	<i>njabulo.ngcobo@kzndae.gov.za</i>	035 795 1345
Potchefstroom College of Agriculture	<i>potchcollege@nwpg.gov.za</i>	018 285 0700
Sol Plaatje University	<i>information@spu.ac.za</i>	053 491 0000
Taung College of Agriculture	<i>mvsalman12@gmail.com</i>	053 994 9800
Tompi Seleka College of Agriculture (Mpumalanga)	<i>tompi@telkomsa.net</i>	013 268 9300
Tsolo College of Agriculture (Eastern Cape)	<i>johnmikelisa@yahoo.com</i>	047 542 0107
University of Limpopo	<i>enrolment@ul.ac.za</i>	015 268 9111
University of the Free State	<i>info@ufs.ac.za</i>	051 401 9111
University of Fort Hare (Eastern Cape)	<i>amikiva@ufh.ac.za</i>	043 704 7190
University of Mpumalanga	<i>manelisi.kilani@ump.ac.za</i>	013 002 0001
University of Pretoria	<i>ssc@up.ac.za</i>	012 420 3111
University of Stellenbosch	<i>info@sun.ac.za</i>	021 808 9111
University of Venda	<i>info@univen.ac.za</i>	015 962 8000
University of KwaZulu-Natal	<i>education@ukzn.ac.za</i>	031 260 1111
University of Zululand	<i>info@unizulu.ac.za</i>	035 902 6000
University of South Africa	<i>cbm@unisa.ac.za</i>	012 352 4288

# GETTING A GRIP ON PANIC and STRESS

**U**ncertain times like those we have experienced in 2020 are a true breeding ground for stress, panic and anxiety, but what do we do about it? How do we handle and overcome this? The best way of handling this devil is by understanding it. Understanding enables you to set up a strategy for handling and overcoming it.

Emotions like powerlessness and the feeling of not being in control can lead to panic and anxiety. In order to handle stress and anxiety, it is important for us to understand that a stressful situation has an impact on all facets or dimensions of our being. It affects our spirit, soul and body.

## Interventions are essential

If your body remains in a state of stress, your immunity can deteriorate, which makes you vulnerable to disease. You might say this is easier said than done. It is possible to return quickly to a balanced state in ideal circumstances, but we do not necessarily have such circumstances. We are continuously exposed to stressful and uncertain situations, which result in the recovery not taking place. For this reason it is essential for certain interventions to be made in all three the dimensions of your being so that your body can recover to a balanced state.

- ▽ In the **PHYSICAL** or **BODILY DIMENSIONS** it is essential to create structure for yourself as soon as possible, and do something physical that sends the message to your brain that you are in control. As soon as your brain gets a message of being out of control and powerless, it interprets it as danger. This activates the stress reaction. The opposite is also true: If your brain receives the message that you are in control, it will not activate the stress reaction.
- ▽ On the **SOUL DIMENSION** level, it is essential for your thoughts to be positive, because your emotions follow your thoughts. Your thought process starts with what you believe, which is shaped by the truth and previous experiences. However, you must choose whether your thoughts are shaped by the trust and whether they are guided by your previous experiences. In other words, what you believe shapes your thoughts and then the emotions and behaviour follow. Naturally, it also helps to talk to someone you trust.



- ▽ The main point of intervention is therefore what you believe. Do you believe the truth or do you believe the situation? Where does your control lie? Within yourself in your **SPIRITUAL DIMENSION**, or outside yourself in the world events? Test everything against the truth (what you know) and not against your emotions (how you feel).

*This article first appeared in  
SA Graan/Grain June 2020.  
Read it online at [sagrainmag.co.za](http://sagrainmag.co.za).*

**Marietjie du Toit, Mesites Christian Academy**

# Protocol for **ACCESS TO FARMS**

**T**he Rural Safety Strategy, as developed and applied by the South African Police Service, makes provision for the implementation of a protocol to manage access to farms.

In the light of the high level of crime in rural farming areas and attacks on farm residents, the following visitor groupings will gain access to farm property in terms of the arrangements as set out in this article.

## Security services

The South African Police Service and the South African National Defence Force must be given access – preferably by arrangement. Vehicles must be clearly identifiable. Members of the security services must wear uniforms.

## Officials that must be given access

Inspectors from the Department of Labour, Home Affairs, Health, Agriculture, et cetera require an appointment beforehand or arrangement with or must receive permission from the owner or person in control of the property to gain access.

## Private persons visiting the farm

Access may be gained only by arrangement or appointment with the owner or person in control of the property. The visitor may follow only the route identified beforehand to the farmworkers' houses.

Relatives who want to visit their ancestors' graves on farms may be admitted only with prior permission and on arrangement with the owner or person in control of the property. There must be a clear arrangement regarding the duration of the visit, as well as regarding the number of persons who will visit the farm.

## Private persons without statutory rights

Researchers, organisers from political parties or trade unions, religious workers, et cetera may make arrangements to meet farmworkers at a suitable public place away from the farm. The producer will make it possible for workers to attend such meetings, including provision of transport to the meeting place if this is practically possible.

## General rules

- ▼ All arrangements must be reasonable for both parties and must preferably be negotiated and put in writing.
- ▼ Visiting persons may carry out only the activities for which written permission has been received.
- ▼ All visitors must report to the owner or person in control of the property on their arrival. A certificate of appointment must be provided.
- ▼ No tampering with departmental locks or those of the owner will be permitted.
- ▼ No pollution of property is permitted.
- ▼ Open fires will only be permitted with the express and written approval of the landowner.
- ▼ Hunting of game and the gathering of firewood are strictly prohibited.
- ▼ Damage to flora and fauna is prohibited.

## Operational visits

A prior arrangement with the owner or person in control of the property is essential to ensure reasonable access to the property. A structure must be available for liaison between the landowner and the security services to facilitate this process.

Government officials, including members of the security services and contractors, must be properly identifiable. Members of the security services and contractors must be able to show a certificate of appointment at all times.

Vehicles used by government officials must be government vehicles. These vehicles and those of contractors must be clearly identifiable.

**Kobus Visser, director: Policy, Agri SA**

# MEASUREMENT, CONVERSION TABLES and FORMULAE

## WEIGHT

### Wheat and soybeans

1 bushel of wheat or soybeans = 60 lb  
 = 27,216 kg  
 = 0,0272 metric tons  
 = bu x 0,027216  
 Bushels to metric tons 36,74371 bu of wheat  
 or soybeans

**One metric ton is equal to:**  
 Wheat: bu/acre x 0,06725 = metric tons/hectare

### Maize and sorghum

1 bushel of maize or sorghum = 56 lb  
 = 25,4012 kg  
 = 0,0254 metric tons  
 = bu x 0,025400  
 Bushels to metric tons 39,3679 bu of maize  
 and sorghum

**One metric ton is equal to:**  
 Maize: bu/acre x 0,06277 = metric tons/hectare

### Barley

1 bushel of barley = 48 lb  
 = 21,772 kg  
 = 0,0218 metric tons  
 = bu x 0,021772  
 Bushels to metric tons 45,9296 bu of barley

**One metric ton is equal to:**  
 Barley: bu/acre x 0,05380 = metric tons/hectare

### Oats

1 bushel of oats = 32 lb  
 = 14,515 kg  
 = 0,0145 metric tons  
 = bu x 0,014515  
 Bushels to metric tons 68,8944 bu of oats

**One metric ton is equal to:**  
 Oats: bu/acre x 0,03587 = metric tons/hectare

## AREA OF LAND EQUIVALENTS

1 hectare = 2,4710 acres  
 1 square mile = 640 acres (259 hectares)  
 1 acre = 4,04694 hectares  
 = 43,560 square feet  
 = 4,800 square yards

## TEMPERATURE

°F	°C
32	0
40	4,4
50	10
60	15,6
70	21,1
75	23,9
85	29,4
95	35
100	37,7
105	40

$C = 5/9 (F - 32)$      $F = (9/5 \times C) + 32$

**FOR CONVERSION;  
MULTIPLY BY...**

Foot to metre	0,3048
Metre to foot	3,281
Metre to yard	1,094
Gallon to litre	4,546
Litre to gallon	0,22
Morgen to hectare	0,8565
Kilometre to mile	0,6214
Mile to kilometre	1,609
Pound to kilogram	0,4536
Pound to gram	453,6

**1 TON (METRIC TON)  
IS EQUAL TO**

= 1 cubic metre of water  
 = 1 000 litres  
 = 10 hundredweights  
 = 10 quintals

**OTHER**

1 kilogram = 2,204622 pounds  
 1 quintal = 100 kg  
 1 metric ton = 10 quintals  
 = 1 000 kg

## METRIC WEIGHT AND CONVERSION

100 kilograms = 1 quintal  
 1 kilogram = 2,240 622 lb  
 1 quintal = 220,462 lb

## MOISTURE CONTENT ON DELIVERY

Grain is seldom sold at the standard moisture content. When the moisture content is greater than the standard, the weight of the grain is discounted to make provision for the additional moisture.

The following moisture content standards are used as condition for the delivery of commodities at silos:

	Delivered	Agreed standard
Sorghum	≤ 14%	12,5% – dry
Wheat	≤ 13%	
Maize	≤ 14%	12,5% – dry
Soybeans	≤ 13%	12,5% – dry
Sunflower	≤ 10%	9% – dry
Groundnuts	≤ 7%	
Canola	≤ 8%	
Barley	≤ 13%	
Oats	≤ 13%	

For example: Maize is delivered at a moisture content of 14%.

Formula: 
$$\frac{(100\% - \text{delivery } \%)}{(100\% - \text{standard } \%)}$$

$$= \frac{(100\% - 14\%)}{(100\% - 12,5\%)}$$

$$= \frac{86\%}{87,5\%}$$

$$= 0,9828$$

By multiplying the weight of the grain delivered by 0,9828, the weight of the maize is calculated at a moisture content of 12,5%, for example the weight of a load of maize of 32 000 kg delivered at 14% moisture is (32 000 kg x 0,9828) 31 449,6 kg @ 12,5% moisture content.

## CALCULATING WATER VOLUME

There are a few measurements that you need:

- ▼ Surface area
- ▼ Maximum depth

### SURFACE AREA

The surface area of a dam is calculated by multiplying the length by the width.

**Example: 30 m x 50 m = 1 500 m<sup>2</sup>**

This will be the case for square or rectangular dams. Most dams start out as a square or rectangle, but over time appear to become rounded. If the dam is not exactly square, round the measurements off. Make sure to err on the conservative side.

Dams such as Turkey Nest dams (used to store water on a relatively flat terrain) can be any shape, and their dimensions may need to be approximated to calculate the surface area.

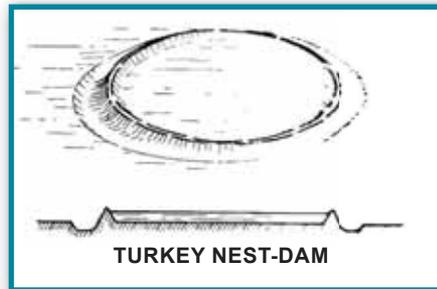
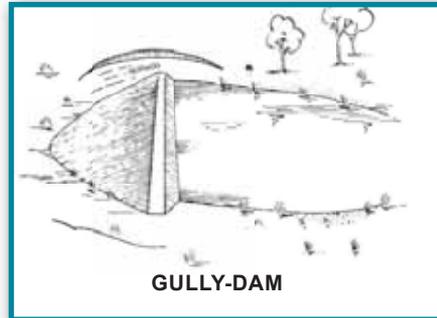
Gully dams (used to store water in a gully) can also be of varying shapes and the formula for calculating their storage capacity is discussed on page 135.

### VOLUME

With the surface area depth calculated, the volume can then be determined:

$$\text{Volume (m}^3\text{)} = \text{surface area (m}^2\text{)} \times \text{maximum depth (m)} \times 0,4$$

(Where 0,4 accounts for the batter slope on the sides of the dam)



**Example:  $1\,500\text{ (m}^2\text{)} \times 5\text{ (m)} \times 0,4 = 3\,000\text{ m}^3$**

To calculate the capacity of your dam in mega litres (ML), divide the volume in m<sup>3</sup> by 1 000  
 e.g.  $3\,000\text{ m}^3 / 1\,000 = 3\text{ ML}$

**Gully dams**

**You can estimate the capacity of small gully storages using this formula:**

**Volume = (width x maximum depth x length) / 5 (where 5 is the correction factor)**

**Example: Water level height up bank = 2 m**

**Length = 20 m, width = 10 m**

**Volume of excavation = 100 m<sup>3</sup>**

**Volume = (2 x 20 x 10 + 100)/5 = 100 m<sup>3</sup>**

Width and depth are measured at the embankment site and length is the distance water will back-up (you will need to add the volume of any excavations made below water level to give the total storage capacity). If the excavation volume is not known, substitute the depth of water at the deepest point as an approximation for the depth.

**DEPTH**

One way to determine dam depth is to row out into the dam and lower a weighted line over the side. When the line is vertical, measure the length of the line needed to reach the bottom. Alternatively, use a pole with distances marked on it. You will need to do this at a number of places across the dam to find the deepest point.

An alternative for smaller dams, or if no boat is available, use a fishing line with a sinker on the bottom with a float attached. The line is cast out repeatedly, with the float gradually adjusted until it's not quite floating on the surface. The distance between the float and the sinker will be the depth at that point in the dam. Again, you will need to do this at a number of places across the dam.

Reference:

Rob Dimsey. December 2006. Vegetable-matters-of-fact, Number 43

**ESTIMATED CAPACITY OF RESERVOIRS (IN LITRES)**

DIAMETER IN METRES	DEPTH IN METRES				
	1,2 m	1,5 m	1,8 m	2,1 m	2,4 m
3	8 600	10 760	12 900	15 000	17 200
3,6	12 200	15 300	18 300	21 800	24 400
4,2	16 650	20 800	25 000	29 200	33 300
4,8	21 700	27 200	32 600	37 900	43 400
6	34 000	42 500	51 000	59 400	68 000
7,5	53 000	66 000	75 600	92 700	108 000
9	76 500	95 500	114 700	134 000	150 200
10,5	104 000	130 000	155 800	182 000	207 900
12	126 000	170 000	203 500	237 000	271 000
13,5	172 000	241 000	257 500	300 000	344 000
15	212 000	266 000	318 200	372 000	425 000
16,5	257 000	321 000	385 000	450 000	514 000
18	306 000	382 000	458 000	534 000	610 000

# RAINFALL CALENDAR

# 2021

	JAN	FEB	MAR	APR	MAY	JUN
1	Fri	Mon	Mon	Thu	Sat	Tue
2	Sat	Tue	Tue	Fri	Sun	Wed 
3	Sun	Wed	Wed	Sat	Mon 	Thu
4	Mon	Thu 	Thu	Sun 	Tue	Fri
5	Tue	Fri	Fri	Mon	Wed	Sat
6	Wed 	Sat	Sat 	Tue	Thu	Sun
7	Thu	Sun	Sun	Wed	Fri	Mon
8	Fri	Mon	Mon	Thu	Sat	Tue
9	Sat	Tue	Tue	Fri	Sun	Wed
10	Sun	Wed	Wed	Sat	Mon	Thu 
11	Mon	Thu 	Thu	Sun	Tue 	Fri
12	Tue	Fri	Fri	Mon 	Wed	Sat
13	Wed 	Sat	Sat 	Tue	Thu	Sun
14	Thu	Sun	Sun	Wed	Fri	Mon
15	Fri	Mon	Mon	Thu	Sat	Tue

 New moon

 First quarter

 Full moon

 Last quarter

General

GRAIN  
Guide

	JAN	FEB	MAR	APR	MAY	JUN
16	Sat	Tue	Tue	Fri	Sun	Wed
17	Sun	Wed	Wed	Sat	Mon	Thu
18	Mon	Thu	Thu	Sun	Tue	Fri 
19	Tue	Fri 	Fri	Mon	Wed 	Sat
20	Wed 	Sat	Sat	Tue 	Thu	Sun
21	Thu	Sun	Sun 	Wed	Fri	Mon
22	Fri	Mon	Mon	Thu	Sat	Tue
23	Sat	Tue	Tue	Fri	Sun	Wed
24	Sun	Wed	Wed	Sat	Mon	Thu 
25	Mon	Thu	Thu	Sun	Tue	Fri
26	Tue	Fri	Fri	Mon	Wed 	Sat
27	Wed	Sat 	Sat	Tue 	Thu	Sun
28	Thu 	Sun	Sun 	Wed	Fri	Mon
29	Fri		Mon	Thu	Sat	Tue
30	Sat		Tue	Fri	Sun	Wed
31	Sun		Wed		Mon	

 New moon

 First quarter

 Full moon

 Last quarter

# RAINFALL CALENDAR

# 2021

	JUL	AUG	SEP	OCT	NOV	DEC
1	Thu 	Sun	Wed	Fri	Mon	Wed
2	Fri	Mon	Thu	Sat	Tue	Thu
3	Sat	Tue	Fri	Sun	Wed	Fri
4	Sun	Wed	Sat	Mon	Thu 	Sat 
5	Mon	Thu	Sun	Tue	Fri	Sun
6	Tue	Fri	Mon	Wed 	Sat	Mon
7	Wed	Sat	Tue 	Thu	Sun	Tue
8	Thu	Sun 	Wed	Fri	Mon	Wed
9	Fri	Mon	Thu	Sat	Tue	Thu
10	Sat 	Tue	Fri	Sun	Wed	Fri
11	Sun	Wed	Sat	Mon	Thu 	Sat 
12	Mon	Thu	Sun	Tue	Fri	Sun
13	Tue	Fri	Mon 	Wed 	Sat	Mon
14	Wed	Sat	Tue	Thu	Sun	Tue
15	Thu	Sun 	Wed	Fri	Mon	Wed

 New moon

 First quarter

 Full moon

 Last quarter

General

GRAIN 2021 Guide

	JUL	AUG	SEP	OCT	NOV	DEC
16	Fri	Mon	Thu	Sat	Tue	Thu
17	Sat 	Tue	Fri	Sun	Wed	Fri
18	Sun	Wed	Sat	Mon	Thu	Sat
19	Mon	Thu	Sun	Tue	Fri 	Sun 
20	Tue	Fri	Mon	Wed 	Sat	Mon
21	Wed	Sat	Tue 	Thu	Sun	Tue
22	Thu	Sun 	Wed	Fri	Mon	Wed
23	Fri	Mon	Thu	Sat	Tue	Thu
24	Sat 	Tue	Fri	Sun	Wed	Fri
25	Sun	Wed	Sat	Mon	Thu	Sat
26	Mon	Thu	Sun	Tue	Fri	Sun
27	Tue	Fri	Mon	Wed	Sat 	Mon 
28	Wed	Sat	Tue	Thu 	Sun	Tue
29	Thu	Sun	Wed 	Fri	Mon	Wed
30	Fri	Mon 	Thu	Sat	Tue	Thu
31	Sat 	Tue		Sun		Fri

 New moon

 First quarter

 Full moon

 Last quarter

# Top tips for burning veld

**B**urning veld can be a bad method if it is abused. It is not normally recommended as a management measure, although it can be used under certain circumstances. Remember, no burning can be done without the necessary permission from the fire chief of the region, and all rules with regard to the controlling of fires must be applied.

## 1 WHY DO WE BURN VELD?

- ▼ To remove superfluous grass material that cannot be removed through grazing – not even through high-density grazing.
- ▼ To control unacceptable alien plants.
- ▼ To control shrubs/bushes (particularly invasive bushes).
- ▼ To make firebreaks.

## 2 UNACCEPTABLE REASONS FOR BURNING VELD

- ▼ To stimulate new growth in autumn and winter when good quality feed is scarce.
- ▼ To improve animal performance.
- ▼ To kill external parasites.
- ▼ Burn early to avoid strong winds in August and September.
- ▼ Burn early or late to follow a certain grazing strategy.

## 3 WHAT IS THE IMPACT OF FIRE ON THE GRASS PLANT?

- ▼ It destroys the growing points of the grass stalks.
- ▼ It leads to a temporary drop in the growth vigour of the grass plant.
- ▼ Fire can reduce the total biomass production by up to 60%.

## 4 WHY IS IT UNDESIRABLE TO BURN GRASS?

- ▼ It reduces the biomass production of the grass.
- ▼ It can lead to soil erosion.
- ▼ Major damage can be done to the growth vigour of the palatable grass plants.

## HOW SHOULD THE VELD BE BURNT?

*Burning to remove dead plant material requires a cool fire, therefore:*

- ▼ The air temperature should be less than 20°C.
- ▼ The relative humidity should be above 50%.
- ▼ It should be done as soon as possible after the first spring rains.
- ▼ Burn with the wind.

*Burning for shrub/bush control requires a hot fire, therefore:*

- ▼ Sufficient flammable material (grass) should be available (3 to 4 tons DM/ha).
- ▼ Air temperature should be above 25°C.
- ▼ The relative humidity must be lower than 30%.
- ▼ Burning should be done before the first spring rains.
- ▼ Wind should be present to cause an upwards current.
- ▼ The trees should start growing actively while the grass is still dormant.

## WHEN IS THE BEST TIME TO BURN VELD?

**Research results indicate that, if veld has to be burnt, the best times are as follows:**

- ▼ Before the grass starts regrowing – preferably immediately after the spring rains.
- ▼ If temperatures are suitable and the grass starts growing before it rains – in this case the grass should be burnt before the first rains.

*The information in this article is used with acknowledgement to Dr Franci P Jordaan's manual, 'Die effek van brand op grond en plantegroei'; 2014.*

**Compiled by Frans Marx, Wolmarransstad Firefighting Association**

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