

FEBRUARY 2020

# PULA IMVULA

**GROWING** FOOD • PEOPLE • PROSPERITY



GRAIN SA MAGAZINE FOR DEVELOPING FARMERS





## Editorial team

### GRAIN SA: BLOEMFONTEIN

46 Louw Wepener Street  
1st Floor  
Dan Pienaar  
Bloemfontein, 9301  
■ 08600 47246 ■  
■ Fax: 051 430 7574 ■ [www.grainsa.co.za](http://www.grainsa.co.za)

### EDITOR IN CHIEF

**Jane McPherson**  
■ 082 854 7171 ■ Office: 012 943 8210 ■ [jane@grainsa.co.za](mailto:jane@grainsa.co.za)

### EDITOR AND DISTRIBUTION

**Liana Stroebe**  
■ 084 264 1422 ■ Office: 012 943 8252 ■ [liana@grainsa.co.za](mailto:liana@grainsa.co.za)

### PUBLISHING PARTNER

**INFOWORKS**  
**Johan Smit ■ Ingrid Bailey ■ Marisa Fourie**  
■ 018 468 2716 ■ [johan@infoworks.biz](mailto:johan@infoworks.biz)



## Grain SA Farmer Development Programme

### DEVELOPMENT CO-ORDINATORS

**Johan Kriel**  
Free State (Ladybrand)  
■ 079 497 4294 ■ [johank@grainsa.co.za](mailto:johank@grainsa.co.za)  
■ Office: 012 943 8283

**Jerry Mthombathi**  
Mpumalanga (Nelspruit)  
■ 084 604 0549 ■ [jerry@grainsa.co.za](mailto:jerry@grainsa.co.za)  
■ Office: 012 943 8289 ■ Smangaliso Zimbili

**Jurie Mentz**  
Mpumalanga/KwaZulu-Natal (Louwsburg)  
■ 082 354 5749 ■ [jurie@grainsa.co.za](mailto:jurie@grainsa.co.za)  
■ Office: 012 943 8218

**Graeme Engelbrecht**  
KwaZulu-Natal (Dundee)  
■ 082 650 9315 ■ [graeme@grainsa.co.za](mailto:graeme@grainsa.co.za)  
■ Office: 012 943 8287 ■ Nkosinathi Mazibuko

**Luke Collier**  
Eastern Cape (Kokstad)  
■ 083 730 9408 ■ [luke@grainsa.co.za](mailto:luke@grainsa.co.za)  
■ Office: 012 943 8280 ■ Luthando Diko

**Liana Stroebe**  
Western Cape (Paarl)  
■ 084 264 1422 ■ [liana@grainsa.co.za](mailto:liana@grainsa.co.za)  
■ Office: 012 943 8252 ■ Hailey Ehrenreich

**Du Toit van der Westhuizen**  
North West (Lichtenburg)  
■ 082 877 6749 ■ [dutoit@grainsa.co.za](mailto:dutoit@grainsa.co.za)  
■ Office: 012 943 8290 ■ Lebo Mogatlanyane

**Cwayita Mpotyi**  
Mthatha  
■ 078 187 2752 ■ [umthata@grainsa.co.za](mailto:umthata@grainsa.co.za)  
■ Office: 012 943 8277

### PULA IMVULA IS AVAILABLE IN THE FOLLOWING LANGUAGES:

**English,**  
Tswana, Sesotho, Zulu and Xhosa.

Articles written by independent writers are the views  
of the writers and not that of Grain SA.

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## A WORD FROM...

*Graeme Engelbrecht*

What does the future hold for  
you as an individual farmer?

**B**Y NOW THE PLANTING SEASON IS BEHIND US, WE HAVE ALL SWEATED, CURSED, PUSHED HARD, CRIED AND PRAYED TO GET US TO WHERE WE ARE NOW. EVERY YEAR IS THE SAME STRUGGLE, ACTUALLY IT SEEMS TO GET MORE DIFFICULT? CLIMATE CHANGE? NEW TECHNOLOGY THAT IS HARD TO UNDERSTAND? ACCELERATING COSTS? DEFINITELY NOT ACCELERATING PRICES! OUR OWN AGE ADVANCING? WHAT DOES THE FUTURE HOLD FOR US?

Everyone got into farming for their own and sometimes unique reasons. The one constant is that the moment you put money into a venture, you have an expectation for a return, farming is no different.

If farming is then a business, is it the same as all other business's? The answer is a distinct no, most business are different in their own way, but what makes farming unique is that you are using a resource of which you are only a custodian for the future and your own future depends on your treatment of this resource. As a farmer you are actually legally bound to be responsible with this resource, and this carries a cost. The financial margins in farming are such that these costs are generally only recoverable in the long term. The costs are balancing the nutrition of your soils, not depleting it, measures to ensure water penetration and avoid damaging runoff, controlling weed seed banks, planting cover crops, rehabilitating watercourses, controlling livestock, maintaining a natural balance of the fauna and flora. All these costs take years to recover but done correctly there will be a distinct financial advantage too. Farming is truly a very long-term business.

If it is such a long-term business, are we prepared for this? A frightening fact from the Subsistence to Abundance project was that the average age of the small-scale farmers participation was in their 60s! It is not only a good succession plan that is needed for our own businesses, but a succession for our industry. Who are the farmers of tomorrow? Where are they now? Are they being given the advantage of your years of experience, your knowledge? Are they being schooled to be ready to embrace new technology? Where is the youth in agriculture?

It is easy to turn to the government and commodity organisations to ask this question and to demand programmes to correct this, but it is to the advantage of each and every individual farmer to find the solution, should it then not also be our responsibility as farmers to help find the solution and to implement it?

What plans have YOU made for YOUR future? ■



# SUCCESSION:

## Planning for the future

**T**HERE IS A LOT OF UNCERTAINTY IN AGRICULTURE, BUT THE FACT IS THAT THERE ALWAYS HAS BEEN AND THERE ALWAYS WILL BE. EVERYTHING WE DO IS DETERMINED BY EXTERNAL FACTORS. ALL THAT WE CAN CONTROL ARE THE THINGS THAT WE HAVE A DIRECT INFLUENCE OVER AND THIS INCLUDES SUCCESSION PLANNING IN OUR BUSINESS.

*Gavin Mathews, Bachelors in  
Environmental Management.  
Send an email to  
gavmat@gmail.com*



Succession is the continuance of your business in a sustainable manner into the future through your next generation. Every generation is faced with different challenges and when there are decades and even centuries of combined knowledge and expertise passed along the family tree then many of these challenges will be able to be dealt with and overcome. When you are no longer around will your business continue and if so, who will be captaining the ship?

Going into business with family can be challenging, but at the same time it can also be very rewarding. As long as each individual has clear set goals and tasks to perform then it is quite possible to have a harmonious work environment where everyone can get along. The key to a family set-up working is to establish these clear areas of responsibility at an early stage. As soon as somebody wishes to enter the setup make sure that you all strategise and plan where the new individual will bring the most value. Everybody has different strengths and the key to running a successful operation is to identify these strengths and put them into working in a manner which brings joy and a sense of purpose to the individual but also productivity to the business.

### LETTING GO OF THE REINS

As head of the business you have no doubt worked very hard for many years to establish a successful operation and it can be very difficult to let go of the reins when sons or other family members enter the setup. When this occurs you should firstly evaluate your personal position; how long do you still want to be actively involved? How much time do you still have left to be physically capable to do the work required? Once you have a clear idea on these questions then you can start to put your succession plan into action.

The best way to start is to be an extremely good listener and mentor. You need to open yourself up to new ideas and technologies that may take your business to the next level. If a valid idea is presented don't be afraid to implement it as it shows trust in the new family incumbent's abilities. While being open to new ideas, one should also be firm in teaching and mentoring the tried and tested ways of doing things. It all comes down to give and take and building a level of mutual respect and trust.



*Succession in agriculture is very important as knowledge needs to be passed on through the generations.*



**Teach your children to love farming.**

If you want your son or any other family member to be involved and take over the business, then they must also want it. If they do not show interest then you will be fighting a losing battle, rather put energy into casting your radar onto somebody who really wants to farm. It may not always be a family member that continues with your business and it doesn't always have to be.



*You can and should however keep your finger on the pulse and always be there for guidance and advice.*



### INSTIL AN INTEREST IN AGRICULTURE

How does one instil an interest in agriculture? There is no set way to get you sons to want to farm, they need to want it on their own accord. But there are ways to guide and nurture youngsters which

could lead to the development of a keen interest. This is achieved by starting early, take the kids out on the farm with you or to the fields when things are happening. Talk to them and explain why you do what you do. Explain the special bond that farmers have with the soil and the environment. Teach them to respect nature and the importance of using nature wisely to feed the population.

Only through this kind of experiential teaching will you be able to pass on the 'flame' to the next generation. Be wise and gentle in your influence. Don't ever be forceful, some people are created for a different purpose in life other than agriculture and that is perfectly okay. A strong relationship with family is far more important than trying to force agriculture onto anybody.

When the time comes to hand over responsibilities and duties be sure to do it fully. Don't be a back-seat driver. You can and should however keep your finger on the pulse and always be there for guidance and advice. Let the new leaders of your business make some mistakes along the way. Mistakes are how one learns. But try your best to let them own the new role. Succession in agriculture is very important as knowledge needs to be passed on through the generations. Pass the baton in a loving manner and your legacy is sure to live on through your successor's. ■



*Successful people do what unsuccessful people are not willing to do. Don't wish it were easier; wish you were better.*

~ JIM ROHN





# Can rotation with COWPEAS contribute to improved crops?

**M**AIZE IS A DOMINANT AND POPULAR CROP OF CHOICE IN SUMMER PRODUCTION REGIONS OF SOUTH AFRICA. FARMERS ARE FAMILIAR WITH THE GROWING HABITS OF THE PLANT AND ARE CONFIDENT THEY WILL BE ABLE TO PRODUCE FOOD FOR THEIR HOUSEHOLDS AND FEED FOR THEIR ANIMALS.

Over time farmers have also developed marketing routines that they are comfortable with. When you are a family food farmer and maize is a staple food which you know how to grow, then obviously it is a first-choice crop. Maize has been fairly forgiving in a mono-cropping farming system as the plants will always yield a measure of corn but research has shown that this crop of choice performs even better when it is grown in a planned three or four crop rotation system with leguminous crops like cowpeas.

Yields have been shown to decline steadily in mono-cropping systems as soils steadily become depleted because the plant needs the same nutrients each season; certain weeds become problematic as they stubbornly increase in the mono-cropped field; and specific diseases and pests thrive and increase in a field that presents them with their ideal habitat year after year.

In the January 2020 Pula Imvula, the benefits of growing crops in a carefully planned crop rotation system regardless of whether the farm is a huge commercial operation or a small household food garden, were highlighted. Many farmers in Grain SA's farmer development programme is first producing food for their families and then intending to market the excess. This article will be the first in a series that will take a closer look at beneficial leguminous plants which could be grown in crop rotation with maize. These crops will not only benefit the soil, crop health and yields returned, but will further add value by improving the nutritional security of a household.

One of the major challenges to balancing our diet is finding a good source of protein. It is the most expensive aspect of our diets. Protein is found in meat, poultry and fish, eggs, dairy products such

as milk, yoghurt and cheese and in beans and legumes such as chick peas, lentils and groundnuts.

As a farmer, you are truly fortunate to be able to grow your own beans like sugar beans, kidney beans, small white beans and also soy-beans and ground nuts. These are all excellent sources of protein that can be marketed or stored for household consumption. Small changes in a family's diet can make a huge impact on general health, well-being and productivity whether the family member is a growing child who needs energy, a learner who needs brain power and focus or already working productively and needs stamina and creative thinking – and we all need to feel well to perform our best. As a farmer you have the power to make the difference to your farmland and your family at the same time – by growing the right crops for healthy soils and sustainable farming, and for growing a healthy family.

## COWPEAS

Cowpea is a versatile crop which can be used in a multitude of ways. It is a summer growing, annual legume scientifically known as *vigna unguiculata* commonly known in South Africa as Akkerboon, Swart-bekboon, Black-eye pea or local names are Dinawa, Dinaba, Tinyawa, Munawa, Imbumba and Ishlumaya. Technically speaking the cowpea is a bean not a pea crop. The cowpea is indigenous to Africa and is one of the oldest food sources known. It performs well in the warm season and can be utilised both for human consumption and animal fodder. Furthermore, the whole plant can be used since seeds, pods and leaves are edible.



Jenny Mathews, Pula Imvula contributor. Send an email to [jennymathews@grainsa.co.za](mailto:jennymathews@grainsa.co.za)



A youth group in a field of cowpea at Nokaneng in the north-western part of Mpumalanga.



## GROWING COWPEAS

The cowpea is normally cultivated under dryland conditions and is known to be more drought resistant than the common bean which makes it an important crop in developing countries. Farmers must use good quality seed which is cleaned and free of insect damage. Planting time is from mid-November until late January, but this is influenced by what the crop is used for i.e. green feed, leaves, forage, green beans or dried peas for household consumption.

The root system of the cowpea is deep rooted with a strong taproot. It also has many lateral roots which spread in surface soil. Root depths of up to 2,4 m have been measured as soon as eight weeks after planting. This means the plant has the ability to access nutrients far deeper than a maize plant can. Cowpeas have low fertiliser requirements and are known to grow well utilising the residual fertiliser in the soils from the previous crop. They are also known to fix nitrogen efficiently and a cowpea crop will add between 40 kg to 70 kg per hectare, per year to the soil. This makes it a valuable plant which enriches the soil for the follow-on crop. Cowpeas are vulnerable to competition from weeds which will compete for space, sunlight moisture and nutrient in the soils.

## COWPEAS ARE A 'SMART FOOD'

Smart food crops are so named because they are:

- Good for consumers;
- Good for farmers; and
- Good for the planet.

## SOIL HEALTH

It is a legume, so it has nitrogen fixing abilities. This means it draws nitrogen from the atmosphere which is stored in the nodules on the plant's roots and then fixed into the soil. This is beneficial to the cowpea crop and will still benefit the next crop planted there. Farmers have reported significantly increased maize yields following on cowpeas because of the increased levels of nitrogen.

*Do you have a favourite recipe for using cowpeas in your cooking? We'd love to see if you are willing to share it. Please email me at [jennymathews@grainsa.co.za](mailto:jennymathews@grainsa.co.za)*

## ANIMAL FEED

The crop can be fed to animals in different forms at all stages of development. It is a great pasture when still green and livestock thrive on the stems and leaves post-harvest. Many smallholder farmers store the dry feed for their livestock in winter months when there is little other food. Cowpea hay can be stored in bags or in haystacks. Even the seeds can be mixed into animal rations to increase the protein levels.

## COWPEAS CONTRIBUTE TO HOUSEHOLD NUTRITION STATUS

The cowpea, or 'black-eyed pea', is a healthy addition to any household diet. It can be used in many forms and is a wonderful source of protein, fibre, vitamins, minerals and energy. It provides the amino acids required to grow or repair protein-based tissues such as brain, nerves and muscles.

- Cowpeas are believed to be good for general health and well-being and have anti-diabetic, anti-cancer, anti-inflammatory and anti-hypertensive properties.
- Cowpeas are high in protein.
- Cowpeas are a rich source of fibre which promotes a healthy digestive system and prevents constipation.
- Cowpeas are low in calories, low in cholesterol and contribute to weight loss.
- Cowpeas have high levels of Vitamin C and Vitamin A which boost the immune system, healing and skin health.
- The vitamin B1 in cowpeas contributes to heart health.
- Regular consumption of cowpeas helps regulate blood pressure.
- The high levels of magnesium in cowpeas helps in the management of diabetes and balances levels of blood sugar.
- The cowpea is full of calcium, phosphorous and iron which are all good for bone health.
- It is believed that regular consumption of cowpeas is an effective way of managing insomnia or night time restlessness. ■

# Take note of these FARMING BUSINESS RISKS

**W**HAT IS A RISK? A RISK IS THE POSSIBILITY THAT AN UNFORESEEN, UNPLANNED, UNNATURAL, OUT OF THE ORDINARY, UNEXPECTED EVENT MAY OCCUR AND COULD CAUSE LOSSES OF SOME NATURE.

When you commence with the production of an agricultural product you face possible risks. Risks that are for ever changing – an ongoing challenge to manage.

The aim of this article is to create a greater awareness of the risks facing our farmers. A greater awareness will assist in managing these risks.

## REGULATORY OR INSTITUTIONAL RISK

These result from changes in policies and regulations that affect agriculture and is a major concern. In South Africa our farmers are experiencing a more unfriendly regulatory framework with very little support for farmers, even during different disasters they face.

Another institutional risk faced by farmers is a political risk which is related to the external environment of a farming business. These risks are beyond the farmer's control but need to be taken in consideration in the business strategy. This could include issues such as land reform, agricultural strategy of government and labour legislation.

## Production process

During the production process numerous events can occur such as uncertain climatic conditions (droughts, flooding, hail, severe frost) and the occurrence of disasters such as veld fires and the outbreak of plant and livestock diseases. Because of the physical damage and production losses, events such as mentioned, have a serious influence on the financial success of the farm business.

**Marius Greyling, Pula Imvula**  
contributor. Send an email to  
[mariusg@mcgacc.co.za](mailto:mariusg@mcgacc.co.za)



In terms of the production process the risks related to our climate are changing dramatically because of climate change. What is changing? All forecasts indicate that South Africa will become hotter, the average temperature is on the increase. Heat waves will be occurring more frequently, this, will result in more veld fires occurring more frequently. Our country will become even drier and we will experience more severe droughts, storms, hail, flooding and so forth. The interesting thing is that we have always experienced this in South Africa – the change will be experienced in that these events will occur more frequently and will be more severe of nature.



*All we know for sure, is that tomorrow  
will not be the same as today.*



The managing of water resources will become more challenging and we will have to improve and conserve our soils (land) to allow for improved water infiltration. Load shedding has become a major risk regarding production, especially where electricity is used during

the production process. The occurrence of the outbreaks of diseases and/or pest on a more regular basis poses a greater risk towards achieving production goals.

The continuous deterioration of infrastructure in our country such as the roads, railways, water infrastructure and electricity infrastructure increase the risk of production.

Consumers are demanding more and more healthy food produced in an environmentally friendly manner and this forces farmers to apply eco-friendly production systems and to be transparent about this. Traceability is demanded – where does the product come from, is it produced in an acceptable way?



*Natural disasters remain a risk.*



### Marketing process

During the marketing process events may occur that could disrupt the marketing process and/or affect prices adversely. The loss can be physical – you cannot market your product (bridges are damaged during a flood). Or the price of your product may drop due to changes to the policy environment (import tariffs for instance) and remember farmers are price takers.

Deterioration of roads and railways also poses a greater risk to our farmers regarding the marketing of their products – to for instance get their products to the markets on time.

Because markets are generally complex and involve both local and international considerations, farm businesses' return may be dramatically affected by events in other regions of the world.

### FINANCIAL RISKS

These could be lower income and/or prices affecting the positive cash-flow position, thus affecting the financial success of the business. It should be noted that production, marketing and financial risks are closely interrelated.

### LABOUR FORCE

The last category of risk to be considered is related to the labour force of a farming business. The change in managing this risk is the enforcement of rigid and strict labour legislation, such as for instance the application of a minimum wage. And, it is rather difficult to terminate a service contract. You may also experience unpredicted negative conduct by your staff. Thoughtless behaviour by either the farmer or his staff could lead to unnecessary disruptive action, resulting in an interruption of the production and/or marketing of products.

### CONCLUSION

Farming businesses in South Africa are increasingly exposed to different risks with drastic consequences should it not be taken in consideration during the management of the business. Farming in South Africa has never been easy. It requires tenacity and nerves of steel. Indications are that it will with all probability become even more difficult. As a farmer you have two choices: Plan in advance and make provision or, quit farming. ■



*Getting ready for planting.*

## Look after your equipment and it will look after you

**T**O BE A SUCCESSFUL FARMER IN LIGHT OF RISING INPUT COSTS AND CHANGING WEATHER PATTERNS, IT IS CRUCIAL TO FOCUS OUR EFFORTS ON THE THINGS THAT WE DO IN FACT HAVE CONTROL OVER.

The importance of timely maintenance cannot be over emphasised as the effectiveness and sustainability of your business depends on it. Anything that is not looked after WILL fail you. Equipment is expensive and needs to last for a very long time. We so often hear about equipment breaking or giving problems during crucial production times such as planting, spraying or harvesting. These breakages directly affect your yields and income and, in many cases, can be avoided.

You need to accept the fact that maintenance will cost you money, but it will

save you a lot more in the end. Maintenance needs to be planned, budgeted for and scheduled for specific times of the year or hours on the clock. Be aware and train your workers well in doing the daily checks, greasing, checking belts, tyres etc. Please be aware that this is the mind-set and a way of life of every successful commercial farmer in the world. It needs to be a routine exercise and a basic budget item in your cash flow planning. Look after your equipment and it will look after you! ■

*Liana Stroebel, Grain SA  
Provincial Co-ordinator,  
Western Cape. Send an  
email to [liana@grainsa.co.za](mailto:liana@grainsa.co.za)*





# The EFFECTS of DROUGHT on agriculture

**T**HIS ARTICLE LOOKS AT THE IMPLICATIONS THAT DROUGHT HAS ON THE AGRICULTURAL SECTOR AS WELL AS COPING STRATEGIES THAT CAN BE PUT IN PLACE TO MINIMISE THE EFFECTS THEREOF.

## THE RIPPLE EFFECTS

Drought has a great impact on different sectors, depending on how much water is used. For agriculture, the effects are dire as the sector uses about 60% of water resources for irrigation while the secondary and tertiary agricultural sector also requires considerable amounts of water to operate.

Depending on how often drought occurs during consecutive seasons, this usually leads to a shortage of supply in produce. This would result in more imports for the country (moving towards import parity) and in general higher prices for produce. Livestock farmers suffer losses of their animals due to unavailability of enough water. This therefore has a large impact on the profit margins of producers and their livelihoods, influencing how much labour they can keep and repayment of their loans. In extreme situations, the effects of drought can easily lead a farming business to close shop.

Due to drought, a drop in agricultural activities in the country means the sector contributes less to the country's GDP. Considering the agricultural value chain, downstream input suppliers will be affected in terms of sales, while upstream agro processors will also be faced with limited supply of produce, which is then costly due to shortages.

Eventually the effects of drought trickle down to consumers, as the increased cost of food will affect their pockets and mostly those that are vulnerable in terms of their financial situation. Overall, the country's food security is at risk, because this means not everyone will have reliable access to a sufficient quantity of affordable, nutritious food.

## GOVERNMENT INTERVENTIONS

It is evident that the consequences of drought are enormous for the country. The government needs to be intentional about coming up

***Ikageng Maluleke, Junior Economist,  
Grain SA. Send an email to  
Ikageng@grainsa.co.za***



with adaptation strategies to assist producers in dealing with the effects of drought.

- Establishment of national or provincial drought funds in the form of grants so that producers in drought-affected areas can be covered.
- Introduction of an insurance fund for producers at municipal level for anticipated drought periods.
- More investment towards infrastructure such as reservoirs, on-farm water storage tanks and access to ground water where it is available.
- More investment into research that will identify drought resistant cultivars as well livestock breeds that will assist producers to reduce the effects of drought. There should be intensive research towards more technological advancements that will assist producers to use water in a more cautious way, e.g. conservation agriculture for grain producers and the use of hydroponic systems for vegetable producers.
- Government should raise awareness about drought and the impacts thereof and train producers on innovative ways to recycle water.

For South African agriculture to survive the adverse effects of drought, the government needs to be deliberate in their financial planning regarding support and the investment towards the sector in terms of mitigation strategies as well as coping mechanisms, especially for the developing farmers who have everything to lose with just one season of drought. ■



# OATS makes feed flow problems a thing of the past

**O**ATS (*AVENA SATIVA*) IS A VERSATILE SMALL GRAIN THAT WAS PLANTED MAINLY FOR THE GRAIN MARKET IN THE PAST. OWING TO THE GOOD NUTRITIONAL VALUE OF THE CROP, IT IS PLANTED LARGELY AS A PASTURE CROP THESE DAYS.

Stock producers can plant oats, which has a high nutritional value and relatively good re-growth properties, to produce sufficient green feed for the winter. Winter cereal crops like oats are planted in large quantities across South Africa every year as winter pasture for sheep, goats and cattle. Small grains include the following crops: oats, korog and stooling rye, wheat and barley.

Oats can be divided into different growth classes, namely spring (short growing season), intermediate (medium growing season) and winter types (long growing season). Oats that falls into the spring-type growth class has no great chilling requirement and will be grazing-ready more quickly than winter types.

However, these types do not produce large volumes of feed and must also be sown more densely, as their booting ability is lower than that of winter types. If pasture is required very quickly, it is advisable to plant a portion of the planting with spring types. Intermediate and winter types of oats have a long chilling requirement (vernalisation period) before they become reproductive. Intermediate and winter types of oats produce larger volumes of feed because of their booting ability and can produce until late in the season.

Planting dates should preferably be spread out to ensure that all the plantings are not ready to be grazed at the same time. Planning is vital. The sowing densities of spring types under dryland conditions are 25 kg/ha to 50 kg/ha, and under irrigation they are 75 kg/ha to 125 kg/ha (depending on the degree of irrigation). The sowing densities of intermediate and winter types are also 25 kg/ha to 40 kg/ha under dryland conditions, and 75 kg/ha to 125 kg/ha (depending on the amount of irrigation) under irrigation. The establishment time varies from one region to the next, but is normally from mid-February until mid-May. In the cold areas planting ends at the end of April.

Oats can also be combined with a variety of crops (including legumes) to increase production and increase the variety of feed intake by livestock. These crops include Japanese radishes, grazing vetch and Persian clover.

## CULTIVARS

Agricol is known as the leader in summer and winter pasture crops. Producers can rely on the following oats cultivars for sustainable feed flow this winter:

### Pallinup and Dunnart

These spring types of oats are usually grazing-ready six to eight weeks after planting. They are characterised by thicker plants that produce fewer sprouts. Pallinup and Dunnart can be used for grazing, silage and hay purposes. Pallinup's grain is also suitable for making breakfast oats.

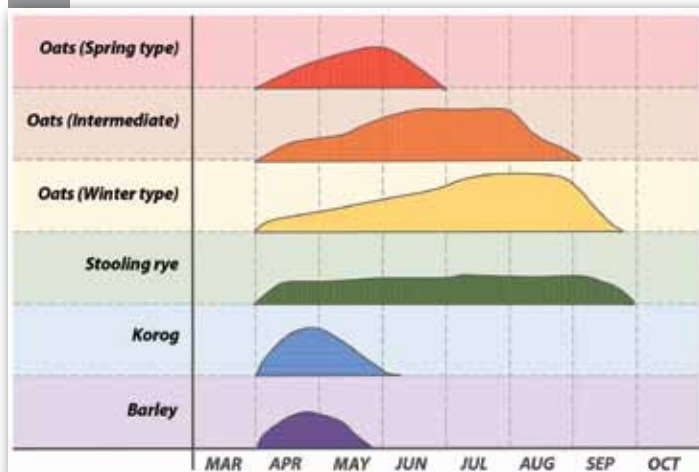
### Overberg

As far as an intermediate type of oats is concerned, Overberg is in a class of its own. The cultivar has a lower chilling requirement than

Joubert Swanepoel, Agricol.  
First published in SA Graan/Grain  
February 2019. Send an email to  
JSwanepoel@agricol.co.za



**1** Peak production phases of different small grains based on a planting date at the beginning of March.



a true winter type and will also start producing earlier. Overberg is suitable for production under dryland and irrigation.

### Magnifico

This true winter type of oats has a high chilling requirement and normally produces palatable grazing from May to the end of September. One of the cultivar's biggest benefits is its high yield potential. Magnifico can be used for grazing, silage and hay production.

## SMALL GRAINS

The following small grains are also important for winter grain production:

### Stooling rye (Agriblue and Echo)

It is an annual winter grain crop that can be established late in summer. Stooling rye is mainly used as green feed for the winter to early spring. There are three types of stooling rye, namely short, medium and long rotation types.

### Korog (Rex, Ag beacon, Ag Marcell)

This hybrid between wheat and rye is mainly used as a pasture or fodder crop. Korog can be classified as a spring or winter type of small grain that is adapted to most environmental conditions and soil types.

## ENQUIRIES

Please call one of our branches for further enquiries:

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BAYER

# MANAGEMENT OF SORGHUM DISEASES

**G**RAIN SORGHUM MAY BE AFFECTED BY A WIDE RANGE OF DISEASES. THE INCIDENCE AND SEVERITY OF THESE DISEASES ARE GROWTH STAGE AND WEATHER DEPENDENT. THE CURRENT FLUCTUATIONS IN RAINFALL DISTRIBUTION AND INTENSITY, AS WELL AS INCREASING TEMPERATURES COULD RESULT IN A SHIFT IN THE IMPORTANCE OF DISEASES OVER THE NEXT FEW YEARS.

A disease that may fall into this category is charcoal rot (**Photo 1**) which is defined as a stress-related disease where stress implies low soil moisture and high temperatures. Still, stress can also be defined in terms of low temperature, for example where low soil temperatures associated with early planting dates, predispose seedlings to seedling blights and damping-off (**Photo 2**).

The later rains experienced over the last few seasons and the later plantings when soils have warmed up sufficiently, may result in this disease complex and diseases such as head smut (**Photo 3**) which is also dependent on colder soils during the seedling stage, becoming less important.

At the other end of the spectrum are diseases such as ergot (**Photo 4**), grain moulds (**Photo 5**) and the risk of associated mycotoxins, which are associated with critical plant growth stages such as flowering, coinciding with late season cooler and wetter conditions due to later plantings. Thus, the changing weather patterns could impact on the incidence of currently important diseases and new threats may also arise.

## DISEASE MANAGEMENT

In the pursuit of disease management, reference is often made to 'resistant cultivars'. Although this is the ideal and cheapest manage-

Prof Neal McLaren and Lisa Rothmann,  
Department of Plant Sciences:  
Plant Pathology Division, University  
of the Free State. First published  
in SA Graan/Grain February 2019.  
Send an email to McLarenN@ufs.ac.za  
or coetzeela@ufs.ac.za



**1**  
*Charcoal rot of sorghum characterised by black micro-sclerotia within the stalk tissues.*

ment strategy, the size of the current local sorghum market as well as the need to close the yield gap between sorghum and maize has resulted in disease resistance being secondary to yield and quality.

Cultivars may have varying degrees of disease resistance and many producers pursue yield with the idea of chemical intervention when deemed necessary. Leaf blight (**Photo 6**) and anthracnose (**Photo 7**) fall within this category. This too requires careful planning

and management in order to be effective and economical.

In Europe for example, only 34% of chemical applications on canola and soybean for the control of Sclerotinia stem rots are deemed necessary or effective. Local sorghum data are not available, but observations suggest this could fall into a similar category.

The Epidemiology sub-division of the Plant Pathology Division of the Department of Plant Sciences at the University of the Free State (UFS) has been focusing on the identification and management of disease driving variables. Much of this research is funded by the Sorghum Trust and aims at providing practical advice to producers which could reduce the risk of disease reaching crop loss thresholds.

A number of advisories are posted below as well as an indication of studies currently



**2**  
*Seedling blight and damping off of sorghum.*



**3**  
*Head smut of sorghum.*





4

*Ergot of sorghum characterised by a sticky exudate that exudes from infected florets.*



5

*Grain mould of sorghum.*



6

*Leaf blight of sorghum with the typical oval leaf lesion and distinct red to tan border.*

being pursued. Producer participation in trials is also being encouraged so as to increase the diversity of weather, soil and agronomic variables under which diseases are studied. Interested parties are encouraged to contact the unit.

### DISEASE MANAGEMENT STRATEGIES

Disease management strategies are aimed at favouring sorghum growth and development while attacking vulnerable stages in the life cycle of the pathogen so that its development is either prevented or restricted. Internationally it is accepted that there are six general strategies for disease management, five of which are relevant to sorghum. Their application in sorghum production is summarised below.

### Exclusion and avoidance as disease control strategies

Exclusion refers to preventing the introduction of a pathogen to a target area while avoidance refers to preventing disease by selecting a time of the year or a site where there is no inoculum or where the environment is not favourable for the initiation of infection. Exclusion in the context of sorghum production would primarily be the use of certified or disease-free seed to prevent the introduction of pathogens into areas where they do not already occur. Exclusion could also include preventing the movement of soil and debris on implements from an infected area to a disease-free area.

Avoidance of sorghum diseases can be construed as misnomers in the strict sense, but practices aimed at reducing the risk of disease





## Management of sorghum diseases...

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*Anthrachnose of sorghum where coalescing lesion may cause extensive leaf area loss.*

favourable environments include the choice of planting date and cultural practices. Sorghum mortality due to a complex of soilborne pathogens during the first three weeks after planting is a recurring challenge in many areas, requiring replanting at considerable seed, fuel and labour cost.

Sorghum seed showing high viability (90%) in standard germination tests often exhibit drastically reduced emergence in the field. Most soilborne fungi are opportunistic pathogens and any condition that reduces seedling vigour can predispose sorghum to infection, thus providing these pathogens the required opportunity.

*The integration of resistance with exclusion, avoidance, eradication and protection strategies could provide significant disease risk reductions that could ensure higher yields and improved grain quality.*

As alluded to above, a major stress factor is low soil temperature associated with early planting. Prolonged night temperatures of less than 13°C subsequent to planting can reduce seedling growth rates and are particularly favourable for infection. A simple adjustment of planting dates to when soils are warmer can reduce the risk of seedling blights and damping-off. Similarly, low soil pH stresses seedlings and predisposes them to infection by soilborne seedling pathogens.

It is essential to ensure that soil pH does not decrease to pH(H<sub>2</sub>O) <5.2 if the risk of predisposition is to be avoided. Localised acidification of soil in a band within the seeding zone may occur when band placement of certain fertilisers coincides with cooler, wet weather which in turn predisposes seedlings to infection. Other stresses include excessive planting depths, planting densities and the use of certain pre-emergence herbicides under sub-optimal conditions.

*Sphacelotheca reiliana* is better known as the causal organism of cob and tassel smut of maize which was very common during the late 1960s and early 1970s. However, the introduction of more susceptible germ-plasm into the local market has resulted in a significant spread of the disease throughout some production areas in recent years.

On sorghum, symptoms only become evident at flowering. Smut sori replace all or part of the panicle. Initially sori are covered with a white membrane which ruptures to release a mass of black spores. Within the sorus distinct strands of host tissues are preserved which become visible as spores are released.

Other less obvious symptoms of infection by *S. reiliana* are dwarfing by some cultivars, excess tillering and a weakened root system. Often smutted plants show greater root and stalk rot than unsmutted plants. In some instances, smutted heads only appear on tillers while the primary head remains sterile and produces no grain.

Soilborne spores of *S. reiliana* germinate and penetrate seedling tissues. After infection the fungus continues to grow systemically and colonises the tissues of the apical meristem. Invaded floral tissues are transformed into the black spore mass at flowering and it is only at this stage that infection is evident. Released spores are re-incorporated into the soil for the next cycle of infection.

Spores can survive for a number of years in a dormant state. Conditions for infection have not been extensively studied. However, slower seedling growth induced by low soil temperatures (<12°C) can promote colonisation of the apical meristem by the pathogen. Thus, as with seedling blights, delaying of planting until soils have had time to warm up and ensure rapid seedling emergence can reduce the risk of infection. Excessive planting depths may also favour head smut.

Avoidance as a strategy also applies to diseases of the inflorescence and grain. Ergot and grain moulds are associated with cool, wet conditions during early flowering and grain development, respectively. Cooler conditions normally occur late in the season, after mid-February, and are normally accompanied by extended dew periods. Planning of flowering dates, either with planting date or cultivar growth period, can reduce the risk of flowering and grain development during these disease-favourable conditions.



Avoidance can also include other risk reduction activities such as population stress often associated with root and stalk rots. Charcoal rot caused by the fungus *Macrophomina phaseolina* is a major disease where sorghum is produced under hot, dry conditions. The disease generally becomes evident on the maturing crop when plants lodge.

Sclerotia of *M. phaseolina* become incorporated into the soil with host debris where they can survive for a number of years. Stress reduction can play a major role in reducing the risk of infection. Maintaining soil moisture during grain fill can reduce infection. In higher risk areas, plant populations should be adjusted to reduce the risk of competition and moisture stress.

Legume rotations have the advantage of stimulating root volume in subsequent sorghum crops which also compensates for root infections, providing for improved water and nutrient uptake and resultant yields.

### Eradication as a disease management strategy

Eradication refers to activities that eliminate, destroy, or inactivate inoculum. The disease management strategy of pathogen eradication applies to most sorghum diseases. Soilborne inoculum associated with the seedling disease complex and root rots can be managed with tillage practices and crop rotations.

Both of these practices aim at reducing the nutrient base and thus reduce pathogen growth and proliferation. Conventional ploughing to promote the rapid breakdown of crop debris and prevent the concentration of crop stubble in the upper soil layers is more effective in reducing inoculum than minimum tillage or no-till.

The advantages of the latter as far as factors such as water retention and reduced wind erosion are concerned, should be borne in mind though. Similarly, studies have shown that rotation systems with in particular legumes, can reduce inoculum levels of critical pathogens. Legume rotations have the advantage of stimulating root volume in subsequent sorghum crops which also compensates for root infections, providing for improved water and nutrient uptake and resultant yields.

The strategy of eradication applies to foliar diseases of sorghum. Exserohilum leaf blight caused by the fungus *Exserohilum turcicum* (syn. *Helminthosporium turcicum*) and anthracnose caused by the fungus *Colletotrichum graminicola* are particularly prevalent in warm, wet conditions.

Disease development is favoured by moderate temperatures (18°C - 27°C), heavy dews and high humidity. Dry weather retards disease development. Losses are dependent on the degree of foliar damage prior to flowering. If the disease is well established before panicle emergence, yield losses can be as high as 50%.

If infection is moderate or delayed until after panicle emergence, yield losses are reduced. Foliar disease can occur at any growth stage, although it tends to be more prevalent on mature leaves. The pathogens overwinter as mycelia and conidia in infected leaves,

grain and other plant debris. Spores are windborne and can be carried over long distances to host plants.

Secondary infection occurs as a result of spore production within leaf lesions. These spores are spread to new hosts by water and wind. Crop rotation with non-susceptible hosts aids in the destruction of infected crop residues and helps to minimise sources of inoculum for subsequent crops. Similarly, tillage practices aid the breakdown of crop debris.

Biological control by means of organisms such as *Trichoderma* spp. that suppress pathogen activity or kill pathogens by means of metabolites and direct parasitism, although not widely applied to sorghum, also falls within the strategy of eradication.

### Host protection

Host protection refers to the prevention of infection by means of a toxicant or some other barrier to infection. In the sorghum disease context this generally applies to the use of fungicides, although, as above, biological agents may also be included. Particularly in the case of seedling diseases, the use of fungicide seed dressings that reduce the activity of both seedborne and soilborne pathogens and enhance seedling vigour is of paramount importance. Seed dressings can also be specific, for example metalaxyl which can be applied for the prevention of downy mildew (a sporadic disease in South Africa) and carboxin for head smut.

On maize a number of triazole seed dressings have been reported to effectively control smuts, but these are not registered on sorghum. The over-use of metalaxyl in Texas has given rise to fungicide resistant strains of the downy mildew pathogen implying that these chemicals need to be used with caution.

As indicated above, the need to close the yield gap in sorghum has increased the dependence on chemical control of in particular foliar diseases such as leaf blight. Although a number of efficacious fungicides have been identified, only azoxystrobin + difenoconazole and azoxystrobin + epoxiconazole are registered on sorghum for leaf blight control in South Africa while azoxystrobin is registered for anthracnose control.

Studies have indicated that application at eight to ten weeks after planting provide the best level of control. The application of fungicides is not always warranted though, as yield loss depends on host growth stage, weather and leaves infected.

The epidemiology unit at UFS is also working towards a weather-based prediction model that includes plant growth stage and yield loss thresholds, that can be used to minimise the risk of unnecessary application of fungicides providing cost saving as well as reducing environmental contamination.

Trials to date suggest that the yield loss threshold is approximately 15% to 20% leaf area damage although on-going verification is required.

### Resistance

Disease resistance remains the most important and economical disease control strategy. But, as indicated above, emphasis on yield and quality more often than not takes preference over resistance. Seed companies regularly screen their releases for disease resistance and advice should be sought regarding the interaction between yield, quality and disease resistance.

The integration of resistance with exclusion, avoidance, eradication and protection strategies could provide significant disease risk reductions that could ensure higher yields and improved grain quality. ■



# The *future* of agriculture through the *eyes of the youth*

**F**OOD SECURITY IS A MAJOR ISSUE IN THIS GROWING WORLD POPULATION. THE DEMAND FOR FOOD IN AFRICA IS EXPECTED TO RISE BY OVER 70% BY 2050 DUE TO POPULATION GROWTH, AND AGRICULTURAL LAND AND WATER ARE SCARCE RESOURCES IN MANY PARTS OF THE WORLD. THIS MEANS THAT WE WILL NEED TO PRODUCE MORE FOOD IN A SUSTAINABLE MANNER WITH THE CURRENT CONSTRAINTS ON SCARCE RESOURCES.

According to the National Development Plan (NDP), South Africa would like to reduce the unemployment rate to 6% by 2030. Currently the unemployment rate is 28%. Agriculture has the potential to create close to 1 million new jobs by 2030, which would be a significant contribution to the overall employment target. The youth makes up the majority of the unemployed.

Thomas Jefferson said, 'Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals, and happiness'.

Depending on where one grows up, there might be various misconceptions about agriculture. Those in the rural areas are more likely to pursue agricultural opportunities in the future. Those in peri-urban and urban areas are more likely to pursue other non-agricultural career prospects. If the latter group decided to work in the agricultural field, they would probably engage more in supporting services, i.e. agricultural economics, veterinary science, animal science, crop science, and not become producers.

Many perceive this field as one replete with the older generation, hard labour and very little profit or room for growth. It is against this background that I would like to pen the perceptions of the youth regarding agriculture. This article comprises a vast array of inputs from different people – from high school learners, teachers, university students to graduates and lecturers – to obtain various perceptions at different levels of exposure.



*After speaking to the youth of South Africa I can safely and with conviction say agriculture has a bright future.*  
– Ikageng Maluleke

This was quite an amazing experience as it helped me identify the perception gaps within different groups of people, giving me hope that the future of agriculture is in the right hands.

**Ikageng Maluleke, junior economist, Grain SA. First published in SA Graan/Grain March 2019. Send an email to [ikageng@grainsa.co.za](mailto:ikageng@grainsa.co.za)**



## PERCEPTIONS

*'To most people, this is just dirt; to a farmer, it is potential.'* – Unknown.

Perceptions about agriculture differ widely depending on peoples' perspectives and backgrounds. The younger high school learner who has never been exposed to agriculture as a subject or in the environment where he grew up, simply views it as 'dirty, laborious and not profitable'.

For those who study the subject at school, things are very different. They understand that producers feed the nation, but most still do not fully understand the different aspects of agriculture. They are, however, willing to take up a career in agriculture as a second option when they go to institutions of higher learning.

In general, the youth in our country currently prefer a career that sort of offers convenience and assurance. It differs significantly with regards to agricultural students and graduates. Their perception is that agriculture is mainly dominated by white males. They have a better understanding of the field, although they went into their various institutions with many misconceptions. Many learn that they need not just be job seekers but rather that they can be job creators; they understand that there is more to agriculture than just planting. It is a fully-fledged business.

## WHY AGRICULTURE?

For those currently in the field of agriculture, the common thread is that they want to contribute to food security and poverty alleviation in the country – and especially in the communities they come from. It is about understanding that you are part of something bigger.

There is a more unconventional group that I stumbled upon: These are graduates from other fields like construction and engineering. They have seen the opportunities within agriculture and decided to switch careers to become agripreneurs.

Agriculture combines their love for nature and allows them the freedom to be innovative. Those who have small-scale family farms would like to use their knowledge to grow their business.

## IS THE SYLLABUS SUFFICIENT?

Most high schools do not have agriculture as a subject. This affects learners' decisions to choose programmes that are more aligned to their high school subjects. For those doing agriculture in school the syllabus was said to be quite good. The perception is that a more practical approach needs to be implemented in schools, though, as these subjects are quite theoretical for learners without a farming background.

From a graduate's perspective, it is a bit of a catch-22; quoting one particular graduate: 'I believe the syllabus tells you how to practice certain things. However, I have learned that half of the things you learn do not even apply to the field. That can really be a confidence killer





for a fresh graduate. The syllabus instead creates job seekers, but doesn't give them the slightest idea of how to manage an agribusiness or inform them of the possible challenges they would face as an owner.'

Most university graduates, whether those who want to farm or do supporting services, feel that their courses are mostly theoretical and therefore a more practical approach is needed. For college graduates courses are more practical. However getting appointed on a farm is a challenge.

I am of the view that agricultural entrepreneurship should be part of the syllabus in order to encourage the youth to think more innovatively about agriculture.

### CHALLENGES FACING THE YOUTH

The lack of mentorship in most aspects of life causes people not to try new things. The ability to see someone succeed with a background like yours, is very encouraging. On the other hand, the lack of mentorship if you are already in agriculture, to show you the ropes and the available opportunities, is also discouraging.

Those who are studying towards an agricultural qualification do not necessarily want to be in the field. Therefore, they either do sub-standard work or drop out. Qualified agricultural graduates find it hard to either find a job or acquire land to start their own agribusiness; most do not have the capital to start their own agribusiness.

One particular graduate mentioned that for him the biggest challenge is trying to initiate a new method for farming to people who have been practicing for years, without seeming disrespectful. Another challenge definitely is racial segregation within agriculture.

It is very difficult for a young black person to get experiential training in agriculture, unless the farm is his. Another challenge is recognition; agricultural graduates are not recognised as much as graduates in other fields. Students who graduate from colleges of agriculture are often side-lined over university graduates. In addition, university graduates often do not get opportunities because they do not have the relevant experience.

### WHAT DOES THE FUTURE HOLD?

*'I believe in the future of agriculture, with a faith born not of words but of deeds.'* – EM Tiffany.

The general impression I get is that in future agriculture – particularly the production side – will be in the hands of students who study at agricultural colleges, as well as the unconventional group mentioned earlier, who have a will to farm.

A couple of farms already run by the above-mentioned people are successful. With the continued growth in urbanisation, less youth will go into agriculture unless more efforts are made to attract them to the sector. However, more youth may be involved in secondary services (logistics, wholesale and retail) in support of agricultural production.

One particular graduate would like to go the extra mile by doing something for the youth; he is planning to start an agribusiness that will have workshops for various matriculants to try and generate an interest in agriculture. He believes that he will be the first black 'hygro' which will be the only South African company that helps graduates with internship placement and students with experiential learning.

He believes it will increase the university intake of agricultural students and it will ensure graduates receive farm placements rather than office-based internships in government departments.

### RAISING INTEREST AMONG THE YOUTH

One of the major things that could attract learners is interaction with people who are in the field of agriculture. The media shows us



so many successful doctors, engineers and lawyers, but not necessarily producers or agribusiness owners. In addition, the success of a young person in this field should be made as fashionable as is the case with other occupations.

It is the 21st century and the youth believes in seeing tangible results; they have to see people making it so they can believe it is possible. The youth is materialistic; agriculture can become fashionable if the youth in this career path worked to make it a success. Furthermore, the use of advanced technology across various components of the sector can attract more youth.

I believe the gaps can also be bridged as follows:

- Firstly, enhance youth participation and leadership in producer organisations and other rural institutions to empower them to engage in policy dialogue.
- Secondly, stimulate private sector investments to create a modern and dynamic agricultural sector and value chains; and to build the infrastructure needed for agricultural investments.
- Thirdly, provide rural areas with better services such as electricity, education and health.
- The final step is to strengthen the physical, economic, social and political links between small urban centres and their surrounding rural areas.

### CONCLUSION

After speaking to the youth of South Africa I can safely and with conviction say agriculture has a bright future. There is a lot that still needs to be done, however. There is already a fire burning within the youth to learn and to create viable businesses and to contribute to poverty alleviation in our country.

Growth and success by those who are already in the sector should be celebrated in order to encourage those who aspire to be in the field. If the sector has a natural culture of vibrancy, most of the youth will be encouraged to pursue agricultural careers. Therefore, it is our responsibility, as a sector, to create awareness and to remove current misconceptions among the youth. ■

# WATER QUALITY AND VOLUME

## important for proper weed control

**G**OOD WEED CONTROL IS ONE OF THE PILLARS ON WHICH SUSTAINABLE CROP PRODUCTION IS BASED ON. A PRACTISE THAT IS VERY POPULAR, IS TO REPLACE THE LAST CULTIVATION BEFORE PLANTING AIMED AT WEED CONTROL, WITH A CHEMICAL WEED CONTROL APPLICATION. BY DOING THIS, THE SOIL REMAINS UNDISTURBED AND THE WEED SEEDS ARE NOT BROUGHT UP TO THE SURFACE.

Water is used as the carrier in almost all crop protection applications. The quality of the water used can determine the effectiveness of the product used to protect the crop.

### SELECTING A WATER SOURCE

The quality of water used on farms is variable and often the water obtained from some sources can cause problems. Ideally the carrier water should be clear, colourless, odourless and with a neutral pH. Factors that should be considered when selecting a water source, include:

- Solids in the water. Water with sediments in suspension may block nozzles. Sediments normally consist of fine organic matter and clays. The active ingredient in the crop protection product can also bind to these, making the product less effective.
- Water pH is of great importance. Some pesticides are hydrolysed under acid or alkaline conditions and if not correct in accordance with the label, can neutralise the pesticide.
- Salts in water is of equal importance. Excessive salts in water may cause damage to the crop plant when sprayed onto the leaves and can also lead to binding of the active ingredients to these salts.
- 'Hard' water contains calcium or magnesium salts which can lead to mixing problems and reducing the stability of suspensions and emulsions.

### PREPARATION

In the preparation of the crop protection mixture, the application volume also needs to receive proper attention. Application volume

refers to the total volume of mixture which is applied to an area and is expressed in litres/hectare (l/ha). The volume largely depends on the apparatus used, the crop type, the target weed and the product to be used. The idea is to achieve a volume that will give good coverage, but not create a drip-off.

It is important to follow the instructions on the label of any product always, also when determining the volumes to be applied. The label will recommend not only the dosage rate (pesticide per hectare), but also the suggested volume.

Glyphosate, and specifically the Roundup® product range with glyphosate as the active ingredient, is one of the most popular choices for pre-plant control of weeds, as well as the over the top application in Roundup Ready® crops.

Water quality and volume is critical for successful control of weeds with any of the Roundup® products. Glyphosate is extremely sensitive to the quality of the water used for spraying. Therefore, it is important to:

- Use high quality, clean water without soil particles or organic matter.
- Add a 2% ammonium sulphate in the mix before the glyphosate is added if you have hard water containing salts.
- Make sure that the pH of the mix is between 4 and 6.5.

Because glyphosate is non-selective, take care when doing applications.

*Roundup PowerMax® contains 540 g glyphosate/ltr. Reg. No. L7769 (Act No. 36 of 1947). Roundup Turbo® contains 450 g glyphosate/ltr.*

**Always follow the instructions on the product label. ■**

**Magda du Toit, Corporate Engagement  
and Communications Manager SA,  
Bayer. Send an email to  
magda.dutoit@bayer.com**



**Use a water pH meter to achieve the correct water pH for spraying.**





# THE CORNER POST

**LAUWRENS POTGIETER**

*Commitment builds good news*

VIEWPOINT

**W**ITH SOUTH AFRICANS BEING BOMBARDED WITH NEGATIVE NEWS, IT IS VERY DIFFICULT TO REMAIN POSITIVE ABOUT THE COUNTRY. PERHAPS WE NEED TO FOCUS MORE ON GOOD NEWS, LIKE THE WEBSITE [WWW.SAGOODNEWS.CO.ZA](http://WWW.SAGOODNEWS.CO.ZA), A NEWS WEBSITE THAT HIGHLIGHTS THE POSITIVE DEVELOPMENTS IN SOUTH AFRICA.

A quote from an unknown source reveals that overthinking is the biggest cause of our unhappiness. 'Keep yourself occupied. Keep your mind off things that don't help you. Think positive.'

When the pressure of land claims led Lauwrens Potgieter to his decision to stop farming, he decided to do this. 'I did not want to sit around and brood but made the decision to keep busy by helping others and trying to make a difference through sharing my knowledge,' this former Jobs Funds mentor says.

## MAKING A DIFFERENCE

Lauwrens, who farmed with maize, soybeans and cattle for 40 years in the Carolina area in Mpumalanga, was involved in the Grain SA Mentorship Programme for two seasons. He had heard about the programme and realised that his knowledge and farming experience could be useful in the area.

He admits the biggest challenge at the onset of his involvement was to 'think small'. 'I had become so use to planting on a big scale, that it was almost intimidating to start thinking in terms of a single hectare.' However, he went back to the basics to make sure he could help these farmers succeed. 'I hope after mastering their 1 ha and improving their yield, some of them will be able to expand their operations.'

Another challenge Lauwrens faced was when he realised that his limited knowledge of the IsiZulu language could hamper the study sessions in some of the more remote areas he had to visit. Because he was so committed to the programme, he employed the services of an interpreter who he paid out of his own pocket. 'This way I ensured that everyone would understand what had to be done.'

To Lauwrens experience, good people skills and patience are three of the key qualities a mentor needs. 'Being a mentor will teach you patience very quickly if you do not have it,' he adds with a smile. He says it is also very important to make time to visit the farmers as often as possible to give some individual attention to their farming operation. 'I could see that it made them feel important when I popped in to see if what we had discussed in the study groups was being applied.'

The 160 farmers in Lauwrens's groups were divided into four study groups spread over a distance of 400 km. Although there was a lot of interest in especially maize production, limited knowledge of correct agricultural practices had hampered good yields.

In this area many of the farmers did not want to apply herbicides as it would kill the *morogo* or pumpkin which had been planted between

the maize. Others would try to save fertiliser for a next season by not applying it all. This is where the theoretical side of the programme was very useful as farmers would discuss their successes and failures and inspire each other to apply the correct agricultural practices.

One of the farmers who benefited from his expertise in these groups was the 2019 Grain SA/Absa/John Deere Financial Subsistence Farmer of the Year, Mazonya Dhlamini. 'I am very proud of this humble, quiet farmer. There are so many people who ask lots of questions and then don't follow the advice we share, but Mazonya went home after the study sessions and applied the information. With personal visits, I could see that he takes pride in what he is doing.'

## MENTORSHIP MEANS STAYING

As with so many of the mentors, Lauwrens also realised that no matter the size of your land, farmers face the same problems. In the areas he supervised one group would receive sufficient rain and could realise a good yield, while the other battled to make ends meet as a result of the drought. Marketing is another stumbling block these farmers face.

'I actually miss mentoring the farmers,' Lauwrens shares. He says one of the aspects that really made a huge impact in his own life was the farmers' 'rock-solid' faith. Meetings were always opened with a prayer and when they prayed for rain they always believed it would rain. The positive interaction between family members, all working together for a common goal, also impressed him.

Lauwrens is honest about the problems in South Africa and the impact it has on the older generation. He admires the youth who tackle stumbling blocks head on. This and what he witnessed as a mentor has given him hope for South Africa.

Since September 2019 more than 700 000 members have joined the facebook page, *#ImStaying*, where South Africans share their reasons for staying in the country. At the Day of Celebration held on 2 October 2019 at NAMPO Park outside Bothaville, various members of Grain SA – including Jannie de Villiers, the CEO, supported the *#ImStaying* movement.

In the South African daily online newspaper, the *Daily Maverick*, businessman Glen Heneck, wrote the following: 'To simply declare "I'm staying" is not in itself a meaningful moral commitment. What is needed, is a more comprehensive pledge embodying a thought-through commitment to help build a better society.' This is what the Grain SA mentorship programme and a group of mentors, like Lauwrens Potgieter, have been helping to do. ■



**Louise Kunz, Pula Imvula**  
contributor. Send an email to  
[louise@infoworks.biz](mailto:louise@infoworks.biz)



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