

SEPTEMBER 2020

# PULA IMVULA

GROWING FOOD • PEOPLE • PROSPERITY

GRAIN SA MAGAZINE FOR DEVELOPING FARMERS





## Editorial team

### GRAIN SA: PRETORIA

PO Box 74087  
Lynnwood Ridge  
0040  
■ 08600 47246  
■ www.grainsa.co.za

### EDITOR AND DISTRIBUTION

#### Liana Stroebe

■ 084 264 1422 ■ Office: 012 943 8252  
■ liana@grainsa.co.za

### PUBLISHING PARTNER

#### INFOWORKS

Johan Smit ■ Ingrid Bailey ■ Marisa Fourie

■ 018 468 2716 ■ johan@infoworks.biz



## Grain SA Farmer Development Programme

### DEVELOPMENT CO-ORDINATORS

#### Johan Kriel

Free State (Ladybrand)  
■ 079 497 4294 ■ johank@grainsa.co.za  
■ Office: 012 943 8283

#### Jerry Mthombathi

Mpumalanga (Nelspruit)  
■ 084 604 0549 ■ jerry@grainsa.co.za  
■ Office: 012 943 8289 ■ Smangaliso Zimbili

#### Jurie Mentz

Mpumalanga/KwaZulu-Natal (Louwsburg)  
■ 082 354 5749 ■ jurie@grainsa.co.za  
■ Office: 012 943 8218

#### Graeme Engelbrecht

KwaZulu-Natal (Dundee)  
■ 082 650 9315 ■ graeme@grainsa.co.za  
■ Office: 012 943 8287 ■ Nkosinathi Mazibuko

#### Luke Collier

Eastern Cape (Kokstad)  
■ 083 730 9408 ■ luke@grainsa.co.za  
■ Office: 012 943 8280 ■ Luthando Diko

#### Liana Stroebe

Western Cape (Paarl)  
■ 084 264 1422 ■ 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  
■ Office: 012 943 8290 ■ Lebo Mogatlanyane

#### Cwayita Mpotyi

Mthatha  
■ 078 187 2752 ■ 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.



THIS PUBLICATION IS  
MADE POSSIBLE BY THE  
CONTRIBUTION OF  
THE MAIZE TRUST

# CONTENTS

GREAT THINGS HAPPEN  
WHEN COMPASSION  
RESPONDS TO NEED

04



RETHINK FARM  
MANAGEMENT  
AMIDST COVID-19

08

DIESEL REBATE  
– UNPACKING WHAT  
YOU NEED TO KNOW

09



12

GUIDELINES FOR  
SETTING UP AND  
MANAGING PESTICIDE  
STORES ON FARMS

16

PLANT YOUR  
DEKALB® SUCCESS

17

POULTRY SECTOR  
MASTER PLAN  
TO UPLIFT GRAIN  
INDUSTRY

18

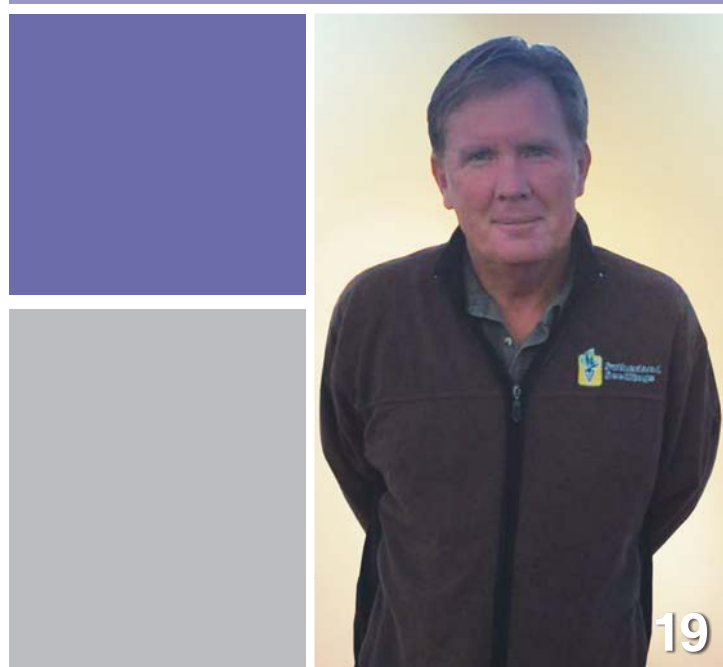




06



10



19



## A WORD FROM...

*Jerry Mthombathi*

**B**Y THE END OF AUGUST, FARMERS WOULD HAVE ALREADY FINISHED HARVESTING THEIR CROP. AFTER SELLING THEIR MAIZE, FARMERS SHOULD COMPARE THE EXPENSES (THAT IS THE MONEY THAT THEY HAVE USED FOR BUYING OF INPUTS AND ON MACHINERY AND OTHER EXPENSES DURING THE PREVIOUS SEASON) WITH THE MONEY THAT THEY HAVE RECEIVED AFTER SELLING THEIR PRODUCE TO CHECK IF THEY HAVE MADE A PROFIT OR NOT.

If the costs are more than what they get in, they should perhaps consider another crop or to try to improve on the mistakes made during the previous planting season. He or she should reflect back on the production processes and try to determine where they can improve.

### WHAT SHOULD FARMERS DO IN SEPTEMBER?

As we are now in September, farmers should make sure that they:

- Service their implements, clean them, keep them under shelter, and make sure that they are in good working condition.
- They should take soil samples if they did not take them the previous month and send them to the laboratory.
- If they know which fertilisers to buy and how many bags/ha to apply they can start placing orders for fertilisers and other inputs like seeds and chemicals.
- If lime was not applied during August, it will be a good time to apply it.
- Decide which crops to be planted and which fields will be used, as we always encourage farmers to rotate their maize crop with legumes.
- If there is a need, the farmer can rip his arable lands if his soils are not deep enough.
- Write down all the activities and the dates that will be taking place, for example, from planting late in October or early November, spraying of pre-emergence herbicides, top-dressing of N-fertilisers and spraying of post-emergence chemicals etc. ■

# GREAT THINGS HAPPEN when compassion responds to need

**A**LTHOUGH THE FOCUS HAS BEEN PLACED ON REALISTIC FACTS SURROUNDING THE COVID-19 PANDEMIC, LIKE THE NUMBER OF DEATHS AND REPORTED POSITIVE CASES, STORIES ABOUT RANDOM ACTS OF KINDNESS HAVE ALSO SURFACED IN THE MEDIA.

Some landlords reduced tenants' rent during lockdown. A shop owner in Cape Town put together hygiene packs with hand sanitiser, a mask, soap and liquid disinfectant which he gave away, free of charge, to anyone aged over 65. There were people who created food and care packages to distribute to the elderly or indigent.

Another 'feel good' story is about a 14 year old boy who got up at 4 am every morning to help bake bread for charities and NGOs. This teenager lives at Nkosi's Haven Village in Alan Manor, in the south of Johannesburg. This care facility is a residency for mothers, children and orphans affected by HIV/Aids. They decided to push aside their own needs and have been baking 450 loaves a day for others in need.

## MAKE A DIFFERENCE

Mother Teresa, the famous Roman Catholic nun who dedicated her life to caring for the destitute, said: 'If you can't feed a hundred people, then feed just one'. At TWK in the Piet Retief area, a surplus of maize which was originally donated to the drought assistance project – a project launched earlier this year by Grain SA in cooperation with various other agricultural businesses throughout South Africa – has made it possible to feed not just one, but hundreds of hungry people in this area.

*Before long 70 tons of white maize was converted to 50 tons of maize meal and ready for distribution thanks to the cooperation of generous farmers, a caring community, TWK and Grain SA.*

Jurie Mentz, development coordinator in Louwsburg, was contacted by TWK in May about the excess maize. After a meeting between the donors, TWK and Grain SA, the decision was made to help alleviate hunger during the lockdown. To cover the cost of milling and packaging the maize, TWK would hold back some of the maize. Before long 70 tons of white maize was converted to 50 tons of maize meal and ready for distribution thanks to the cooperation of generous farmers, a caring community, TWK and Grain SA.

Timon Filter, a mentor and trainer of the Grain SA Farmer Development Programme was involved in missionary work for several years in the Piet Retief area. Through his community involvement and unity crusades he had come to know the spiritual leaders in the area. This was the ideal way to compile a list of names of people in dire straits. Furthermore, churches, old age homes and other institutions were also asked to provide information. 'We also asked the study group leaders to send in names of people in the more rural areas that needed food,' Timon added.



**Louise Kunz, Pula Imvula**  
contributor. Send an email to  
louise@infoworks.biz

## MESSAGES OF APPRECIATION

Here are two messages of appreciation received by Timon from pastors who distributed food amongst their congregations:

- *'I just want to send my appreciation to you and all the farmers who have donated such needed supplies to our communities. It is a welcome assistance and the people are so appreciative. I am delivering already and there is so much need. I'm heading to Ishwepe now to drop off the last supply. Please pass our appreciation to all farmers and may God bless them.'*
- *'Thanks for the meal contributions. I just added a few things as you can see. I bought some cabbages as well. Timon, wellspring and whoever is involved in making a difference in people's life, this means a lot in our ministry.'*

Currently the bags are being stored at a church in Piet Retief and one of the members who owns a truck offered to help with the transportation and distribution of some of the maize. The other maize meal is distributed through study groups, churches, schools and old age homes.

Although Grain SA managed the project, it was definitely teamwork that made the difference. 'It gives me goose bumps to see the way everything just fell into place,' says Jurie.

## GROWING NEED, THANKFUL HEARTS

Timon shares that donations were also made to families in Amsterdam, a small town about 60 km from Piet Retief. 'Of the 178 families who were identified as being in need, 98 of them were in dire straits and have also benefitted by the donation.'

For June 13,5 tons of maize meal was distributed, but the need is growing the longer lockdown continues. Jurie and Timon believe that the need for food will increase, and trust that there will be enough to help until circumstances in the country have improved.

To Timon this project is bringing people together. 'It is humbling to see how people are getting involved and trying to help.' It is even more humbling to receive WhatsApp messages and emails expressing gratitude.

Jerry Mthombothi, Grain SA development coordinator at the Nelspruit office, recently made the team aware of the need in his area. The farmers in the Piet Retief area kindly donated 10 tons which will be distributed over a period of five months, 2 tons per month.

Please remember, that you too can make a difference no matter how small. Wherever there is a human in need, there is an opportunity for kindness.





Some of the people who benefitted from the feeding programme thanks to generous producers in the Piet Retief area who were assisted by Grain SA and TWK.



# Keep a close watch on FACTORS INFLUENCING YIELD

**A** DETAILED YIELD ESTIMATION METHOD HAS BEEN DESCRIBED IN PREVIOUS *PULA IMVULA* ARTICLES. THIS METHOD WAS TESTED ON SOME LANDS PLANTED IN THE 2019/2020 PRODUCTION SEASON TO COMPARE THE PRE-HARVESTING ESTIMATE TO THE FINAL YIELD HARVESTED. WHAT BECAME EVIDENT IS THE HUGE DIVERSITY OF COB SIZES, NUMBER OF ROWS PER COB AND KERNEL WEIGHTS OR MASS WITHIN A SINGLE CULTIVAR IN A LAND OR BLOCK PLANTED IN THE SAME PERIOD.

It is a useful exercise to pick cobs from several individual plants before harvesting. They can be examined and measured for cob length, number or rows, length of full seeded area while taking note of any non-pollinated or undeveloped seed areas at the cob tips.

The information or data can be used to evaluate any short comings in the actual yield harvested to the planned target and the effectiveness of the fertilisation programme. Any deficiencies noted can be used to improve these production factors in the next crop.

An example of a test carried out can be seen in **Table 1**. Please note the diversity of cob sizes found. The test was done when the maize cobs were very moist and measured at harvesting. Estimated conservative



*The same cultivar as tested showing the maize and cobs, some just after silking and pollination others at the soft dough stage illustrating the large number of cobs on the plants.*



*The same land having a theoretical potential of over 8,5 t/ha with the fully formed cobs which become about 6 t/ha at harvesting.*

Written by a retired farmer



## 1 An example of a maize crop yield estimation.

Maize – Crop yield estimation									
Determine the mass or weight of seed or kernels per plant									
Test example									
Test 1									
Cobs on 10 plants	1	2	3	4	5	6	7	8	Totals
Rows per cob	16	14	14	16	14	14	14	14	
Kernels per row	42	36	21	43	36	21	36	36	
Number of kernels/cob	672	504	294	688	504	294	504	504	3 964
Cobs on 10 plants	9	10	11	12	13	14	15	16	
Rows per cob	14	14	14	14	14	14	14	14	
Kernels per row	36	36	36	36	36	36	36	36	
Number of kernels/cob	504	504	504	504	504	504	504	504	4 032
Cobs on 10 plants	17	18	19	20	21	22	23	24	
Rows per cob	14	14	14	14	14	14	14	14	
Kernels per row	36	36	36	36	36	36	36	36	
Number of kernels/cob	504	504	504	504	504	504	504	504	4 032
Cobs on 10 plants	25	26	27	28	29	30	31	32	
Rows per cob	14	14	14	14	14	14			
Kernels per row	36	36	36	36	36	36			
Number of kernels/cob	504	504	504	504	504	504	0	0	3 024
Total number of kernels in all cobs counted									15 052
Determination of yield of maize per hectare									
Description	Plants	Kernels per test	Average kernels per plant	Mass per kernel/grams	Grams per plant	Plant population per ha	Total grams per ha	Total kg's per ha	Total yield tons per ha
Block letter	A	B	C	D	E	F	G	H	
Formula			B / A		C * D	From plant population test	E * F	G / 1 000 grams per kg	H / 1 000 kg's per ton
Total test 1 (above)	10	15 052	1 505	0,2t	421				
Total test 2 (e.g.)	10	15 052	1 505	0,2t	421				
Total test 3 (e.g.)	10	15 052	1 505	0,2t	421				
Totals (Averages)	30	45 156	1 506	0,3	452	16 304	7 366 304	7 366	7,37
less 5 % for Harvesting losses									95%
Simulated yields at different kernel mass or seed mass									
At a kernel mass of				0,2t	377	16 304	6 138 587	6 139	6,14
less 5 % for harvesting losses								95%	5,83
At a kernel mass of				0,2t	422	16 304	6 875 217	6 875	6,88
less 5 % for harvesting losses								95%	6,53
At a kernel mass of				0,3t	527	16 304	8 594 022	8 594	8,59
less 5 % for harvesting losses								95%	8,16

yield at that time was 6,17 t/ha hectare. Indications are with a portion harvested that the final yield will be 6,4 t/ha. It shows that the method was quite accurate and was on the conservative side. Two rows of kernels from each cob were removed, counted and weighed. The number of rows per cob found were 12, 14, 16 and 18 in one cultivar.

## CULTIVARS

Yield is determined by kernel/pip numbers and kernel weight or mass. This will be further influenced by plants per hectare, cobs per plant and kernels per cob. There is a large choice of cultivars available to farmers for each production region ranging from single stem single cob types to multi-stem and multi-cob types. Some types are suitable for silage as well as seed production.

The potential number of kernels and kernels in a row is determined between the V6 and V8 growth stages. The V6 and V8 stages describes the 6 and 8 leaf stages of growth after planting. These stages can occur, depending on a hybrid maize cultivars' genetic makeup, between 23 to 32 days after germination. The maximum number of ovules are formed after the initial ovules divide into two rows. The potential of the cob which can be up to 1 000 ovules per ear is set a week before the silks emerge at about 70 days of age. The silks emerge from each ovule and having received pollen, are fertilised, and start developing into kernels.

Single plant data cobs		21	ha's												
	Size	Total length in cm's	Length to last seed row	No of rows	Kernels in row	Kernels per cob	No of pips from 2 rows	Wet mass of pips from 2 rows in grams	Mass from 1 row in grams	Inferred total wet mass of seed per cob	% Moisture	% Seed mass	Estimated dry mass	Dry mass per kernel grams	Actual dry mass at harvesting 12,5% moisture
Cob 1	Large	22	21	16	42	672	90	42	21	336	40,00%	60,00%	201,6	0,30	0,30
Cob 2	Medium	19,5	18	14	38	532	84	38	19	266	45,00%	55,00%	146,3	0,28	0,32
Cob 3	Small	18	12	14	19	266	82	38	19	266	65,00%	35,00%	93,1	0,35	0,34
Single plant data cobs		4	ha's												
	Size	Total length in cm's	Length to last seed row	No of rows	Kernels in row	Kernels per cob	No of pips from 2 rows	Wet mass of pips from 2 rows in grams	Mass from 1 row in grams	Inferred total wet mass of seed per cob	% Moisture	% Seed mass	Estimated dry mass	Dry mass per kernel grams (12% moisture)	Actual dry mass at harvesting 12,5% moisture
Cob 1	Large	22,50	21,50	18	44	792	88	40	20	360	35,00%	65,00%	234,00	0,30	0,31
Cob 2	Large	21,00	20,00	14	45	630	92	40	20	280	35,00%	65,00%	182,00	0,29	0,30
Summary – estimated yield															
	Ha's	Plant pop	Mass / Plant	Yield	less 5% harvesting loss	Total land yield in tons									
Land portion	21	16 304	422	6,88	6,54	13726									
Land portion	4	15 000	300	4,50	4,28	1710									
Total land	25				6,17	15436									

The potential number of kernels formed is thus highly dependent on the growing conditions and available nutrients before the start of silking, while the actual kernels reaching full size and mass are determined by conditions during and after silking.

The cobs described below came from a multi stemmed and multi cob type also suitable for silage production. As was noted during the season at the early to medium kernel reproductive development stages at R2 to R3 some plants had up to seven potential cobs on three stems which weaned off to 2 or 3 cobs at harvesting. In wet seasons the additional cobs might be ideal. Please refer to the many charts available of the maize growth stages from seed suppliers.

Farmers must consider that all this vegetative growth with increased moisture transpiration and nutrient demands in a dry year might result in a stressed crop with below targeted yields. These factors should be critically discussed with your seed supplier in deciding which cultivar type is best for your farm. It is best to plant several varieties to compare to a well-known 'benchmark' staple that has done well on your farm over a number of seasons. Becoming part of a trial test programme for new cultivars is also advisable.

## FERTILISATION MANAGEMENT

Much research has indicated that any shortage of mainly nitrogen in the above-mentioned critical phases of kernel development will have the most effect on growth and final yield. Weed control when the plants are between the first to the 5-leaf stage (V5) up to 21 days after germination is important.

It is most important and critical to side dress any nitrogen requirements that were not applied before or at planting between stages V5 to V8 to ensure that the nutrients are available in the soil for the maximum number of kernels to form. As noted in previous articles it is recommended that half the required nitrogen be applied at planting and the other between the V5 to V8 stages. Should conditions prevent side dressing as planned, the nitrogen can be applied up to the 10-leaf stage if your equipment can still be used in the land if the plants are not too high. Maize can grow from being knee high to being over shoulder high in 14 days. Your planning for

the side dressing operation must be well in place before any crop is planted.

Any malformed or ears showing a nitrogen, sulphur or potassium shortage from tests above should be used to adjust the future fertilisation programme accordingly. Sulphur and nitrogen shortages can be masked, and potassium can show up as short cobs with unfurled tip kernels. These signs can be better observed by studying the growing and mature green leaves. A well-balanced fertilisation recipe is always recommended. One is trying to improve kernel numbers and kernel mass in future crops with optimum management.

## CONCLUSION

Visit your crop with seed and fertiliser supplier consultants during all phases to see any problems or shortage of nutrients that might develop in reducing your final yield. Be aware of and measure all yield influencing factors during the growth, seed formation and harvesting phases. ■



Examples of dry cobs at harvesting.



A range of cobs at a high moisture stage.



# Rethink farm management amidst COVID-19

**A**T THE TIME OF WRITING THE ARTICLE WE WERE WELL INTO THE LOCKDOWN CAUSED BY THE COVID-19 PANDEMIC. WHEN THE LOCKDOWN WILL END IS ANYONE'S GUESS. PERHAPS BY THE TIME YOU READ THIS ARTICLE THE LOCKDOWN WILL BE A THING OF THE PAST, BUT THE VIRUS WILL STILL BE WITH US ACCORDING TO THE EXPERTS. WHATEVER THE CASE, THIS ARTICLE WILL STILL BE RELEVANT.

However, challenges regarding the management of farm businesses, especially our smaller farm businesses, are already identifiable and will need to be addressed sooner or later to maintain a successful business. And we must realise that the normal life we were used to before the lockdown will never be the same or normal again after the lockdown.

## WHAT CHALLENGES CAN BE IDENTIFIED?

The one causing the greater challenge at the moment, is that of cashflow. Some farmers faced difficulties regarding the marketing of their products, and this affected their income. This caused concerns regarding payment of expenses such as wages, electricity, and others. Farmers with perhaps too much debt are also experiencing more cashflow problems than others. One must realise that going forward, whether still in lockdown or thereafter, you must manage your cashflow and debt very thoroughly to succeed with your business.

A certain way to address income-flow is to diversify your business. Instead of producing one or two enterprises with an income once or twice a year, diversify into other enterprises to spread your income. If one product fails, you can at least rely on an income from another product. Please remember to diversify does not mean you must necessarily diversify into more enterprises. You could perhaps diversify into a totally different business. Think out of the box. Consider your talents and those within your family and your resources. What about agri-tourism?

If you have faced challenges with the marketing of your product/s during this time, perhaps you should reconsider your marketing strategy. A definite drive for more products, such as vegetables, fruit, meat, and milk to be marketed directly from producer to consumer is developing. Requests for supply for products direct from farmers to consumers appear daily on Facebook. A report in a recent *Landbouweekblad* indicates that



*Diversify your business to reduce risks.*

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



there are some 150 000 spaza shops in South Africa and there is a drive to assist the owners with technology to manage their shops properly, especially their stock, and many have indicated they will be interested in selling fruit and vegetables. There are other opportunities for marketing available, you must just go and find them.

As far as production is concerned perhaps you should consider your production methods. Are you on your way to applying conservation farming methods or are you still stuck to the old ways of soil tillage? Conservation farming is aimed at producing field crops while minimising soil disturbance, maintaining soil fertility and retaining soil moisture. Minimum soil disturbance, keeping the soil covered (cover crops), mixing and rotating crops, and adding a livestock component have been proven to work efficiently. Due to retaining moisture farmers who apply these methods have found to have good production even in periods of droughts. Due to minimum tillage costs are reduced and production increased. And, by adding a livestock component you are also diversifying your farm. Consumers are also becoming very conscience of eco-friendly farming methods to produce healthy products and are commanding traceability.

Another effect of the lockdown is that people are now much more aware of the health and safety at the workplace. Expect this to continue after the lockdown and expect more inspections from the Department of Labour. Thus, be prepared for it.

We want to emphasise that the successful management of your business relies on a thorough physical planning for each year culminating in a proper budget. The budget then being the financial expression of your plans and must include a cashflow budget. Then manage your business according to your plan and budget. As far as the management of your cashflow budget is concerned, be very careful of spontaneous purchases especially purchases on credit. If you are uncertain how to plan and budget properly, get assistance and remember if you do not measure you cannot manage properly. Improve your record-keeping, it is of the utmost importance.

## CONCLUSION

Thus, take note that you will not be able to carry on as you have always done to be a successful farmer. A successful farmer is someone who makes a sustainable profit for many years. The challenge of the COVID-19 pandemic and the lockdown time is to re-think the management of your business in total – production and production methods, marketing, utilisation of resources, health and safety, management of your finances, and record-keeping. The demand for food is on the increase and the pandemic has highlighted food security, thus there are opportunities.

Be compassionate about your business, re-think your business and be prepared for the next disaster, or...! ■



# DIESEL REBATE

## – unpacking what you need to know



**T**HE DIESEL REBATE IS BASICALLY A DIESEL REFUND SYSTEM. IT IS A TAX RELIEF MADE AVAILABLE FOR VARIOUS ACTIVITIES IN THE FARMING, MINING AND FORESTRY SECTORS AMONG OTHERS.

The intention is to lighten the burden carried by local industries that must compete in the international sector where for e.g. many farmers receive subsidies and other forms of protection. It is also intended as a relief offered on vehicles that do not necessarily utilise the public roads networks since they primarily work in designated areas, for example on farms. The Diesel Refund Scheme is currently administered through the VAT system in terms of the Customs and Excise Act.

This rebate provides full or partial relief from the General Fuel Levy and the Road Accident Fund levy. As of 1 April 2020, the General Fuel Levy increased to 355 cents per litre; and the Road Accident Fund levy increased to 207 cents per litre.



*The diesel rebate is one of the only benefits farmers receive from the government so we should strive to keep records that are beyond suspicion.*



A farmer qualifies for a rebate on 80% of his lawful use in terms of the qualifying litres. This would be litres used for the primary farming activities and would exclude diesel consumed for personal and private use. Farming enterprises are entitled to a diesel rebate in respect of diesel that is physically delivered to the premises of the farm of a qualifying user. Many farmers have been claiming the rebate even when diesel is purchased at other outlets for farming activities. However, a Supreme Court of Appeal judgement made in November 2019 provided guidance on the Act, finding that a qualifying taxpayer may only claim a rebate for the diesel fuel stored and used on its own premises.

### HOW DO I QUALIFY FOR A REBATE?

In order to qualify for a diesel rebate:

- It is necessary to firstly be registered as a VAT vendor.
- You must then apply for registration for the diesel rebate with SARS. The form to be completed is a VAT101D.
- In order to qualify for the rebate and be able to claim the rebate back, the onus is on the farmer to prove the amount of fuel consumption.
- All relevant documentation relating to diesel purchases must be kept.
- Logbooks must be maintained. This will require that the farmer completes a schedule listing the activities that qualify for the rebate as well as the diesel usage per activity.



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

### DIESEL LOGBOOKS

These are your evidence of diesel purchases and diesel usage.

#### What type of information should be recorded in a diesel rebate logbook?

1. All diesel purchases. Log the dates, the tax invoices and keep hard copies safely and readily available. Note: The rebate is claimed against the diesel already consumed and not on the basis of diesel purchased.
2. Record the date and description of vehicles filled with diesel from your storage fuel tanks for farming purposes. Supply an accurate description of the vehicle and the number of litres dispensed from your tanks into each vehicle.
3. Record which farming activity, and on which field the vehicle was used. For example, ploughing, disking, planting. Note: SARS has been known to demand to know the exact location where the farming activity has taken place, so it is important to be specific about where the diesel was used and for which activity the diesel was utilised.

An example of a diesel usage logbook can be found on the SARS website at: <https://www.sars.gov.za/AllDocs/LegalDoclib/Drafts/LAPD-LPrep-Draft-2013-17%20-%20Draft%20Tariff%20Amendment%20Diesel%20Usage%20Logbook.pdf>

### GENERAL

It is important for farmers to understand that the diesel rebate is a special concession being made. SARS officials are always looking out for those who are abusing the system and using it fraudulently. It is to the benefit of the broader farming sector that we respect the legislation and keep our slate clean and honourable.

The diesel rebate is one of the only benefits farmers receive from the government so we should strive to keep records that are beyond suspicion. At the same time, should farmers experience frustration and problems with the diesel rebate system and the implementation thereof, Grain SA can be of assistance and farmers should feel free to contact the head office as long as they can provide accurate records and their reasons for the frustration. ■



# Fall armyworm: Refuge emphasised

**T**HE FALL ARMYWORM (**PHOTO 3**) IS A SERIOUS PEST ON MAIZE IN SOUTH AFRICA AND CAUSES DAMAGE TO THE WHORL AND TO MAIZE EARS. THIS ARMY WORM CAN CAUSE SIGNIFICANT YIELD LOSSES AND MUST THEREFORE BE CONTROLLED URGENTLY.

Bt maize that was genetically modified to control larvae like the fall armyworm is successfully planted in America and in other parts of the world. However, it is not sufficient to rely on one control measure like Bt maize to control the fall armyworm in South Africa. An integrated pest management system must always be kept in mind to combine and rotate control measures.

## INTEGRATED PEST CONTROL

Bt maize that is cultivated in South Africa can contain one of the following Bt events MON810 (YieldGard), MON89034 (YieldGardII) and Bt11 (AgriSure). Even though Bt maize is a good control measure to use for controlling the fall armyworm, it is clear that it is not a sustainable option for the future on its own.

In addition to controlling the fall armyworm with the aid of Bt maize, it is important to also follow an effective insecticide spraying programme in order to ensure effective control.

## 70% OF MAIZE CONTAINS BT GENE

More than 70% of the maize planted in South Africa contains the Bt gene, therefore there is always a risk that the target insect pests can develop resistance. The main concern is the rate at which these targeted pests can develop resistance.

Producers should prevent the development of resistance by using a specific approved resistance-control strategy. In order to prevent the development of resistance, the high-dosage refuge strategy should be used.

Dr Annemie Erasmus, ARC-Grain Crops, Potchefstroom. First published in SA Graan/Grain September 2019. Send an email to [ErasmusA@arc.agric.za](mailto:ErasmusA@arc.agric.za)



*Africa maize stalk borer, Busseola fusca larf.*

## HIGH-DOSAGE REFUGE STRATEGY

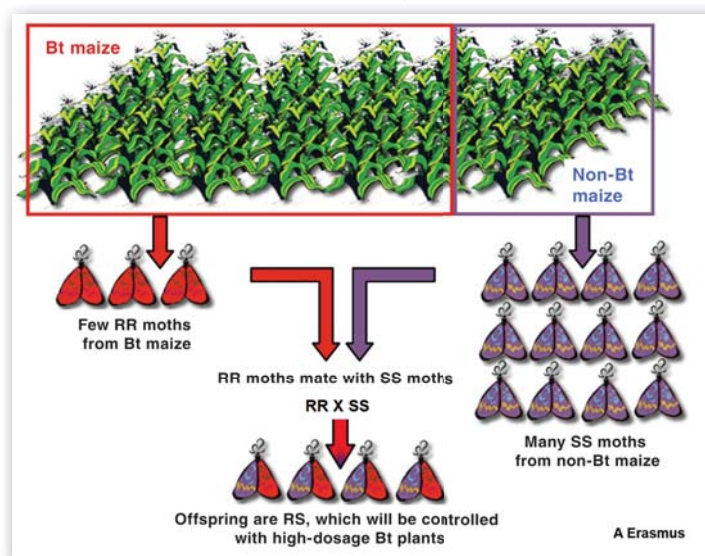
This strategy is based on the combination of Bt maize that produces high dosages of toxin with the proximity of non-Bt maize as a refuge. The aim of the high-dosage refuge strategy is to kill as much as possible of the target pest.

### 1 Summary of options to follow when the high-dosage refuge strategy is used.

	OPTION 1: 5% refuge with no chemical control		OPTION 2: 20% refuge where chemical control may be administered	
	Non-Bt refuge	Bt planting	Non-Bt refuge	Bt planting
<b>Africa maize stalk borer</b> ( <i>Busseola fusca</i> )	No application of insecticide	Insecticide applied if 5% - 10% damage is visible	Insecticide applied if 10% damage is visible	Insecticide applied if 5% - 10% damage is visible
<b>Chilo borer</b> ( <i>Chilo partellus</i> )	No application of insecticide	Insecticide applied if 5% - 10% damage is visible	Insecticide applied if 10% damage is visible	Insecticide applied if 5% - 10% damage is visible
<b>Fall armyworm</b> ( <i>Spodoptera frugiperda</i> )	No application of insecticide	Insecticide applied if 5% - 10% damage of 3 or > on Davis scale is visible	No application of insecticide	Insecticide applied if 5% - 10% damage of 3 or > on Davis scale is visible
Only: Insecticide applied if > 20% damage registers 3 or > on the Davis scale. In this case Bt planting must also be sprayed.				



**Figure 1: How the high-dosage refuge strategy works to prevent resistant insects from occurring.**



The provision of the refuge is to produce moths of the targeted pest that survive on non-Bt maize. The intention is to make sure that a scarce, resistant moth from Bt maize does not produce totally resistant offspring by mating with other resistant moths.

On the contrary, susceptible moths from the non-Bt refuge are supposed to mate with the resistant individuals that survive on the Bt maize. The offspring of the mating are expected to have a low to moderate level of resistance and then not to have the ability to survive on maize with high Bt levels (**Figure 1**).

The basis of integrated resistance management is that producers plant sufficient hectares of non-Bt crops to serve as refuge to the target pest. This reduces the selection pressure for the development of Bt-resistant insects and guarantees that Bt-susceptible pests will be available to mate with Bt-resistant insects if there are any of them.

There are certain prescribed guidelines to be followed if the producer plants Bt maize in South Africa. There are two options that can be followed: a 5% refuge of non-Bt maize where larvae may not be chemically controlled, or a 20% refuge of non-Bt maize where larvae may be chemically controlled.

If the 5% option is selected, the producer must plant 5 ha of non-Bt maize and 95 ha of Bt maize for every 100 ha of maize planted. If the 20% option is selected, the producer must plant 20 ha of non-Bt maize and 80 ha of Bt maize for every 100 ha of maize planted.



**Chilo borer, *Chilo partellus* larva.**



**3**

**Fall armyworm, *Spodoptera frugiperda* larva.**

## ACTION THRESHOLD VALUE

The following action threshold value is recommended (summarised in **Table 1**):

### Africa maize stalk borer and Chilo borer

For *Busseola fusca* (Africa maize stalk borer) (**Photo 1**) and *Chilo partellus* (Chilo borer) (**Photo 2**) – Bt maize planting: Insecticide application if 5% to 10% of the plants show stalk borer damage (5% preventive, 10% action threshold value), non-Bt maize refuge: 5% refuge – no insecticide application, 20% refuge – insecticide application if 10% of the plants show stalk borer damage.

### Fall armyworm

For *Spodoptera frugiperda* (fall armyworm) (**Photo 3**) – Bt maize planting: Insecticide application if 5% to 10% of the plants show damage of 3 or more on the Davis scale (5% preventive, 10% action threshold value); non-Bt maize refuge: 5% refuge – no insecticide application, 20% refuge – insecticide application if 10% of plants show damage of 3 or more on the Davis scale.

Only for *Spodoptera frugiperda* (fall armyworm) – in cases of extreme infestations (> 20% of plants with damage of 3 or more on the Davis scale) in the 5% refuge where no insecticide was applied, it may be necessary to control larvae by applying insecticide. If the refuge is sprayed in such an event, the Bt planting must also be sprayed.

## GENETICALLY MANIPULATED FARMING

In the product manual for genetically manipulated farming the following matters are highlighted:

- The field of a neighbouring producer does not qualify as an adequate refuge.
- It is not acceptable to mix Bt and non-Bt seed when using a refuge.
- The refuge must be planted in the same field and have the same growing conditions as the Bt maize.
- If the Bt maize is cultivated under irrigation pivot, the refuge must also be under irrigation pivot.
- Producers must regularly monitor fields for insect damage.

If the above guidelines are followed, Bt maize can be produced sustainably to control significant pests like stem borers and the fall armyworm.

The information provided in this article is summarised in the document, *Integrated Pest Management (IPM) & Insect Resistance Management (IRM) for Fall Armyworm in South African Maize*, compiled by the Insecticide Resistance Action Committee (IRAC) of South Africa, May 2018 (<https://www.irac-online.org/>), with the insect resistance management recommendations as provided by the South African National Seed Organisation (SANSOR). ■



**MADE POSSIBLE BY  
BAYER**



# GERBILS IN AGRICULTURE:

## Impact and ecologically based control

**G**RAIN CROPS WORLDWIDE ARE IMPACTED BY VARIOUS PESTS THAT AFFECT YIELD, PROFITABILITY AND IN SOME CASES FOOD SECURITY. AN IMPORTANT, BUT OFTEN OVERLOOKED PEST OF GRAIN CROPS, IS RODENTS.

Dr Lourens Swanepoel, Department of Zoology, University of Venda.  
First published in SA Graan/Grain August 2019. Send an email to lourens.swanepoel.univen@gmail.com



In a recent meta-analysis it was found that rodents can cause up to a 15% crop loss in Afro-Malagasy smallholder farming systems. While research investigating crop losses in commercial farms is lacking, similar numbers can be expected.

For example, in the 2012 summer rainfall maize planting season it was estimated in a Grain SA survey that around 54 377 ha of maize was lost due to rodent pests. As such it is important to realize that the rodent impact of grain crops span from small-scale subsistence farmers to large-scale commercial operations and is an important factor in crop production.

Even though Africa has around 381 rodent species, only 5% are considered as rodent pests. In smallholder farming (and some commercial operations) across Africa, crop damage is dominated by *Mastomys* spp. (multimammate mouse, *vaalveldmuisk*).

In the South African summer grain farming areas, rodent crop damage is dominated by the *Gerbilliscus* spp. (gerbils, *nagmuise/springhaasrotte*). In this article the focus is on the *Gerbilliscus* spp. since the majority of our research has focused on this species.

### GERBILLISCUS SPP.

There is currently eleven *Gerbilliscus* species which are grouped into three geographically defined clades: The western, eastern and southern clades. The southern clade is important as grain pests for South Africa and it comprises three species; *Gerbilliscus afra*, *G. brantsii* and *G. leucogaster* (Figure 1).

The Highveld gerbil (*Gerbilliscus brantsii*; *Hoëveldse nagmuisk*) and Bushveld gerbil (*Gerbilliscus leucogaster*; *Bosveldse nagmuisk*) have a wide geographical distribution in South Africa, while the Cape gerbil (*Gerbilliscus afra*; *Kaapse nagmuisk*) is restricted to the south-western Cape sub-region (Figure 1).

The Bushveld gerbil typically prefers a more mesic woodland habitat (>250 mm mean annual rainfall), while the Highveld gerbil has a higher tolerance for arid conditions (could occur in areas with <250 mm mean annual rainfall) and prefers grassland and open woodland. Gerbil species are often associated with light sandy soils or sandy alluvium, hence their association with summer crops in South Africa.

Gerbils are nocturnal (night active, large eyes – therefore the Afrikaans name *nagmuisk*) and terrestrial and they excavate extensive burrows. Like most rodents, gerbils have a cyclic reproduction cycle which is driven by rainfall and food resources.

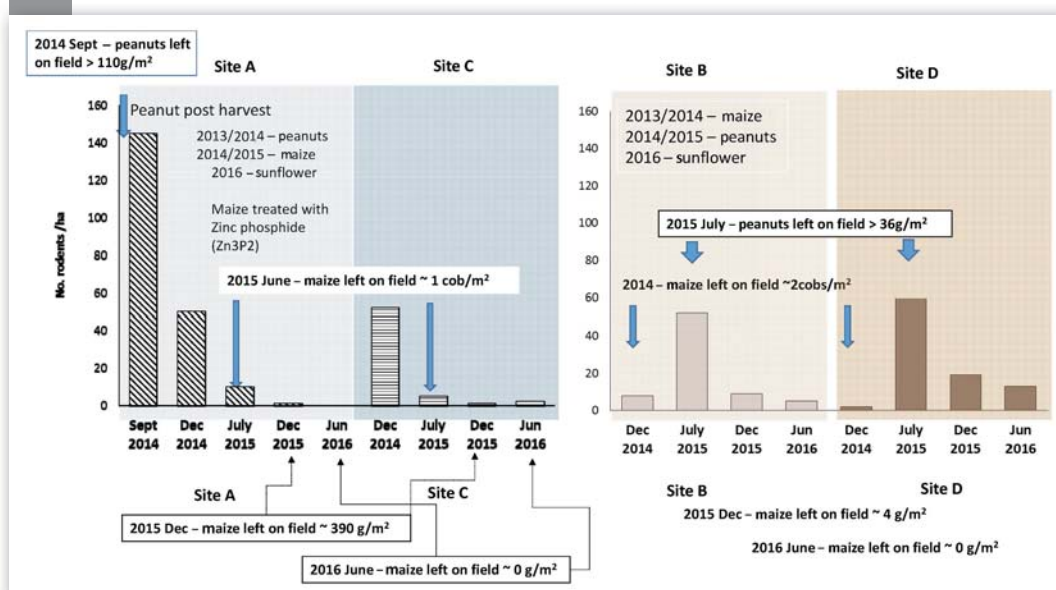
Under natural conditions gerbil breeding season is between September and April, with a cessation of breeding in dry seasons (May to August). Under varying summer rainfall gerbils can have a bimodal tendency (e.g. early and late seasonal breeding). Gerbils have a number of natural predators including most small carnivores (e.g. mongooses, striped weasels, striped polecats, felids and canids), avian predators (e.g. owls and eagles) and reptilian predators (snakes).

### GERBILS AS AGRICULTURAL PESTS

During the last six years rodent pests have been studied in both rural (smallholder farming) and commercial farms to develop ecologically based rodent management options. This research has been funded by the Maize Trust, the Sasol Agriculture Trust, the European Union and the African Union.

Extensive research and monitoring were done during the period 2013 to 2016 in the Hoopstad area on gerbil damage and population cycles (in collaboration with the ARC-Plant Protection Research Institute and Centre for Wildlife Management, University of Pretoria). Gerbil populations were also monitored in the Sandveld Nature Reserve (Bloemhof)

#### 1 Relationship between gerbil densities and crop wastage. A study done on commercial crops farm in Hoopstad, South Africa.





1a

**Typical gerbil damage to maize seedlings.** Photo: Lourens Swanepoel



1b

**Gerbil damage can be seen as 'crop circles' reflecting the gerbil colony's burrow system.** Photo: Lourens Swanepoel



1c

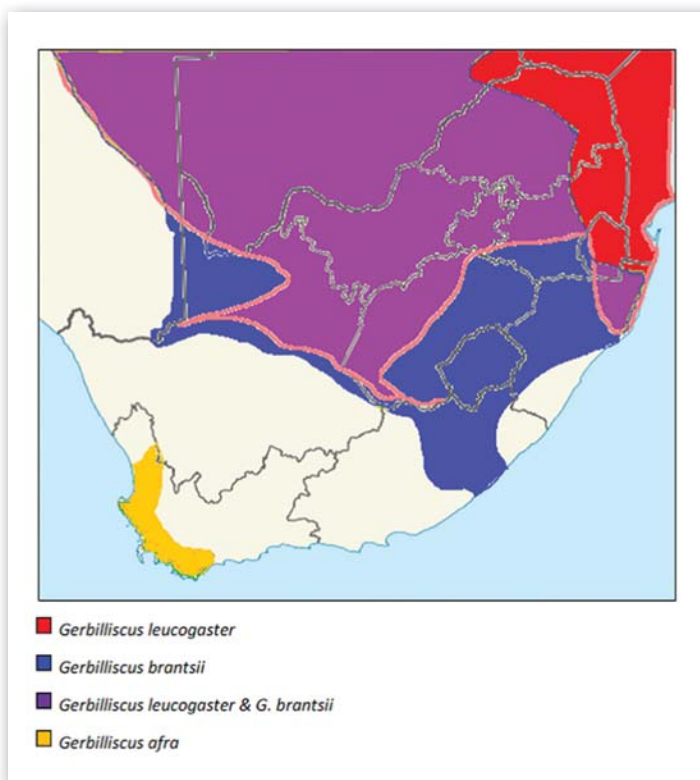
**Gerbil damage persists throughout the growing season, unless replanted.** Photo: Emil Von Maltitz

to contrast with the commercial farming areas. Since the distribution of gerbils coincides with the summer grain farming areas in South Africa, it is inevitable that these species will impact summer grain crops.

In the Hoopstad area it was found that both gerbil species (Bushveld and Highveld gerbil) inhabited the grain fields, but that the Highveld gerbil dominated the crop fields during the planting and vegetative stages (and was more likely to damage crops).

The Bushveld gerbil was more likely to be found in the natural vegetation surrounding the fields. Interestingly, the Bushveld gerbil was also the

**Figure 1: Distribution of gerbil species in southern Africa.**



dominant species trapped in the Sandveld Nature Reserve. Diet analysis showed that both species incorporated crop seeds (maize and/or groundnuts) into their diets, but the Highveld gerbil primarily selected seeds while the Bushveld gerbil shifted its diet to include plant material and insects. This highlights the fact that seeds in crop fields play an important role in gerbil population cycles.

## DAMAGE

Gerbil damage to grain crops is restricted (as far as research has shown) to the germination and emergent seedling stages. Gerbils will typically dig up the germinating seed, or feed on the roots/pit of the young emerging seeds (**Photo 1a**). Damage can easily be seen as 'crop circles' which reflect the burrow systems of the gerbil colony (**Photo 1b** and **Photo 1c**). Gerbils can damage all crops including maize, groundnuts and soybeans.

Damage to crops is affected by the density (number of gerbils) in the field as well as the crop planting stage. Gerbil density is primarily affected by the rainfall and food resources.

It is important to note that under natural conditions food resources will be driven by rainfall. But in cropping areas food resources will be affected by rainfall (which affects weed density, planting density, crop yields and insect activity) as well as crop wastage due to harvest methods, crops planted and combines used.

Research shows that groundnut wastage (**Photo 2a** to **Photo 2c**) is a key driver of gerbil densities (**Graph 1**). At high wastage ( $>30\text{g/m}^2$ ) gerbil populations increased to high densities (up to 140/ha at  $>110\text{g/m}^2$  groundnut wastage; Graph 1).

In crop rotations (groundnut to maize) gerbil densities declined, but densities can still be sustained by maize wastage (Graph 1). Here it can be



## Gerbils in agriculture...



*Crop wastage and residue play an important role in gerbil population density.*



*Picking up maize cobs post-harvest can reduce food availability to gerbils, with subsequent reductions in population and crop damage.*

seen that crops following groundnut cropping will have a high likelihood of being damaged by gerbil populations.

However, even in non-rotating cropping systems (maize to maize), crop wastage will still drive gerbil populations. A key factor in the gerbil population is that it manages to maintain reproductive potential even through the dry season.

Under natural conditions the populations would have crashed during the dry season, but in the crop fields they maintain production. This means that a higher density will start to breed in the early rainy season, with higher densities during crop plant seasons, and hence more damage.

### ECOLOGICALLY BASED SUSTAINABLE GERBIL MANAGEMENT

There are several key points that need to be considered in developing or implementing an ecologically based gerbil management plan.

Firstly, gerbils are native rodent species inhabiting the landscape. As such, management plans should aim to achieve rodent population suppression, rather than elimination. This is important since these species still play important ecological roles in the ecosystem. Gerbils are a food source for many species and thus a key factor in predator diversity. Similarly, the burrow activity of gerbils is important for soil aeration and water infiltration.

A second important point is that the management program should aim to control only the pest of concern and not impact the whole ecosystem.

### REDUCING CROP DAMAGE

It should be clear that controlling the factors affecting the gerbil population cycle is key to reducing crop damage. There are a few factors that the producer has control over.

Firstly, grain wastage during harvest should be kept to a minimum. Producers should make sure the combines operate at acceptable levels of wastage.





4a

*A Cape fox (Vulpes chama) carrying a gerbil to her young.*



4b

*A black-backed jackal (Canis mesomelas) feeding on a gerbil.*



4c

*A gerbil became dinner for a small spotted genet (Genetta genetta).*



4d

*Gerbils are also a food source for striped polecats (Ictonyx striatus).*

Secondly, if wastage occurs, all attempts should be made to remove or reduce such wastage. There are several options; either pick up corn cobs post-harvest (**Photo 3**) or use livestock grazing. It was found that sites grazed post-harvest had significantly lower gerbil density, and a much lower crop impact.

Thirdly, try to encourage natural gerbil predator populations (**Photo 4a** to **Photo 4e**). This can be achieved by providing nest boxes for owls and maintaining patches of natural vegetation for breeding and resting sites for mammalian predators.

For example, by monitoring ten barn owl boxes in the Ottosdal area, Lushka Labuschagne (an MSc student at the University of Pretoria) estimated that ten breeding pairs of barn owls can remove roughly 14 600 rodents annually.

Lastly, there are chemical control options available. There is some rodenticide bait registered for the use against gerbils in crop fields. These should ideally be used as a burrow bait option. Some producers have also reported success using non-chemical control options such as water drums.

There has been positive damage reduction by applying zinc phosphide, but this product is not registered as a rodent control agent in South Africa.

Through the University of Venda and various other African universities, we are currently looking into the option of predation as a component in rodent pest control. This project is funded by the African Union (EcoRodMan project: <https://ecorodman.nri.org/>). ■



4e

*Supplementing barn owl (Tyto alba) nest boxes can encourage predation in agricultural landscapes.*



# Guidelines for setting up and managing pesticide stores on farms

EVERY FARM IN SOUTH AFRICA USES PESTICIDES, BE THEY SYNTHETIC, NATURAL, BIOLOGICAL OR EVEN ORGANIC. THESE PRODUCTS, KNOWN AS AGRICULTURAL REMEDIES IN THE FERTILISERS, FARM FEEDS, AGRICULTURAL REMEDIES AND STOCK REMEDIES ACT, 1947 (ACT NO 36 OF 1947), ARE PRODUCTS THAT MAY POSE A CERTAIN HAZARD TO PEOPLE AND THE ENVIRONMENT.

However, it is possible to manage the risk posed by pesticides by putting the correct management measures in place.

Fruit and vegetable export producers are already subject to the requirements of the certification agency GlobalGAP, not only for the responsible use of pesticides, but also for their safe storage on the farm. Although few grain producers export directly, it is sensible to follow certain guidelines for safely storing pesticides in order to ultimately reduce the risk.

## LOCATION

It is advisable to build the pesticide store far away from any water sources like streams, rivers, dams, pans and boreholes. It should also be away from any dwellings, milking parlours, kraals or pens.

A good place is next to the shed where the implements and tractors are kept. Build the pesticide store on the eastern side of the tractor shed, so that the afternoon sun is blocked. This will keep the store reasonably cool.

## CONSTRUCTION

Use strong bricks or concrete when building the store, with a sealed roof that does not cause the store to overheat.

Construction material should preferably not be flammable. The building should be well ventilated – extraction fans are therefore important and should preferably be mounted in the ceiling. Floors should be poured from concrete (at least 75 mm thick), levelled and finished smoothly to prevent any spilt pesticides from running into grooves or being absorbed by the concrete.

*Follow the principle of using the oldest stock first and only use the newest products once the old stock has been finished.*

Doors and window frames should be made of steel and there should be a sturdy, steel security gate at the entrance. A building protected like this will also curb theft.

A concrete driveway, approximately 5 m wide, will facilitate access. It is advisable to pour a 500 mm wide concrete path around the store and to finish it off with a two-brick high retaining wall. In the event of large spillages, it will be contained by the wall.

Dr Gerhard H Verdoorn,  
operations and stewardship  
manager, Croplife South Africa.  
First published in SA Graan/Grain  
September 2019. Send an email  
to [gerhard@croplife.co.za](mailto:gerhard@croplife.co.za)



## WARNINGS

A large warning sign of at least 750 mm x 750 mm should be fixed next to the door of the store and should include the following items:

- Skull with crossbones in red, together with the word **Hazardous** in thick red letters.
- **Access only for authorised persons** in thick black letters.
- **Pesticide store** in thick red letters.
- **Smoking, eating and drinking prohibited** in thick black letters.
- **Protective clothing** in thick black letters, followed by the items required, like rubber boots, rubber gloves, full overall, face mask and head cover.
- **Emergency numbers** in thick red letters, followed by:
  - Farm owner's name and telephone number
  - Manager's name and telephone number
  - Fire department's name and telephone number
  - Police station's name and phone number
  - Hospital's name and telephone number
  - Poison information centre's name and telephone number

This sign should also be posted on one other outside wall.

## EMERGENCY EQUIPMENT AND CLEAN-UP EQUIPMENT FOR SPILLAGES

### Emergency equipment

Sufficient firefighting equipment, namely dry-material fire extinguishers and sand, should be available. There should also be a standard first aid kit in the store, preferably stored in an airtight plastic case, to prevent contamination by the pesticide fumes.

An eye rinse bowl with clean water should be available. It can be a normal plastic drum with a soft plastic bottle to spray water in the eyes.

### Clean-up equipment for spillages

A 210 l open-mouthed plastic drum with a lid, large plastic bags, a plastic or stainless steel spade, dustpan, plastic broom, vermiculite and sawdust are necessary to clean up spillages.

The vermiculite or sawdust is sprinkled over the spilled material and left for half an hour to absorb it, after which it is picked up with the broom, spade and dustpan and disposed of in a plastic bag.

Seal the bag with strong tape and store it until it can be removed by a company specialising in the management of hazardous waste to be destroyed.

See [www.croplife.co.za](http://www.croplife.co.za) under *Waste Management* for the contact details of these companies.

## WARNING SIGNAGE

The following signage should be put up inside the store:

- Fire equipment
- Protective clothing to be worn



Clear warning signs should be visible at the pesticide store.

- Escape routes
- Eye rinse bowl
- Eating, drinking and smoking prohibited

These types of signs are available at co-operatives and hardware stores.

### SAFE STORAGE AND SAFE WORKPLACE

It is advisable to always store pesticides on non-absorbent shelves or plastic palettes. If containers stand on concrete floors, water can dam up and make the containers moist and damage the labels.

Herbicides identified by purple squares on their labels should always be placed right at the bottom if products are placed on different shelves.

Insecticides and fungicides should be stored above herbicides.

All red-band products should be stored behind lock and key. Flammable products should be separated from non-flammable products and stored separately. Ensure that the labels on containers are not damaged and always keep an updated file with a copy of the label of every product.

Clean water should be available at the store and a safety shower should preferably be built outside. All protective clothing, including the respirators and filters used, should be kept in an airtight plastic trunk in the store

– it can be the same one as for the first aid kit.

The store should always be locked and the key kept by only one responsible person.

### RECORD-KEEPING

A stock book should be maintained and all incoming stock must be documented, and the stock used should be indicated. Follow the principle of using the oldest stock first and only use the newest products once the old stock has been finished. ■

# Plant your DEKALB® success

**B**AYER IS COMMITTED TO THE CONTINUOUS DEVELOPMENT OF A WIDE RANGE OF INTEGRATED SOLUTIONS TO SUPPORT THE WORK THAT NON-COMMERCIAL FARMERS ARE DOING. WE KNOW YOUR FARM IS YOUR PRIDE, WHICH IS WHY WE STRIVE TOWARDS ADDING VALUE THROUGH INNOVATION TO ENSURE A SUCCESSFUL HARVEST.

This planting season, we bring you superior maize genetics and unrivalled support from our sales team to ensure a harvest that you can be proud of. Our DEKALB® cultivar range offers excellent agronomic characteristics and crop protection solutions that will open a world of possibilities for your farm.

### YELLOW CULTIVAR RANGE

In this range, we are proud to offer DKC73-74BR GEN, DKC72-76BR and DKC73-72.

DKC73-74BR GEN and DKC73-72 are both stable yielding cultivars suitable for eastern production areas. These cultivars have good foliar health and are suitable candidates for silage production. With excellent seedling vigour and standability these cultivars are leaders for smallholder farmers.

Another cultivar in the yellow cultivar range that has proven excellent performance is DKC72-76BR. This cultivar is known for its excellent yield stability as a result of its prolificacy. DKC72-76BR performs exceptionally well in both western and eastern production areas, dries down quickly and has a good disease tolerance.

### WHITE CULTIVAR RANGE

We are proud to offer DKC76-77BR, DKC78-45BR GEN, DKC75-65BR, DKC76-71 and DKC2147.

In our stack gene range, we offer DKC76-77BR and DKC75-65BR which both offer built-in technology for protection against insects as well as tolerance to Roundup® which makes weed control easy. Both these cultivars show excellent yield performance and good all-round disease tolerance, with DKC76-77BR being the best white DEKALB hybrid for tolerance against charcoal rot. DKC75-65BR is suited for western production areas while DKC76-77BR is widely adapted for both eastern and western production areas.

Other white cultivars that perform exceptional in both eastern and western production areas are DKC78-45BR GEN and DKC76-71. Both cultivars show excellent yield performance and prolificacy, with the added benefit of good grain quality. DKC76-71 has excellent all-round disease tolerance and is one of the DEKALB's leading cultivars when it comes to tolerance against charcoal rot.

One of the most well-known cultivars planted by our smallholder farmers is DKC2147. This cultivar, that is recommended for eastern production areas, shows stable performance under variable conditions. With very good standability and excellent grain and milling quality it is no secret why this cultivar ranks top of its class.

Please contact your closest DEKALB representative for more information on our extensive range of cultivars and make DEKALB your choice this planting season. ■

**Arthur Schröder, Corn Go-To-Market  
Strategy Lead: Africa. Send an email  
to [arthur.schroder@bayer.com](mailto:arthur.schroder@bayer.com)**



**MADE POSSIBLE BY  
BAYER**



# POULTRY SECTOR MASTER PLAN

## to uplift grain industry

**T**HE POULTRY SECTOR MASTER PLAN HAS BEEN DEVELOPED IN CLOSE PARTNERSHIP BETWEEN GOVERNMENT AND SEVERAL STAKEHOLDERS IN THE INDUSTRY, FROM POULTRY FARMERS, PROCESSORS, EXPORTERS, IMPORTERS AND ORGANISED LABOUR. IT PROVIDES A FRAMEWORK FOR A DETERMINED EFFORT TO GROW THE OUTPUT (AND JOBS) IN THE INDUSTRY THROUGH SOME OF THE MEASURES THAT WILL BE IMPLEMENTED OVER A NUMBER OF YEARS.

Significantly, it sets out a new, joint vision across the value-chain, identifies five pillars that underpin the vision and creates a Poultry Sector Master Plan Council to monitor and drive implementation of the pillars.

The poultry sector plays a key role in South Africa, providing an important affordable source of protein for millions of households. It adds value to the maize and soybean crops, serving as a key customer for the farming sector. This industry has low barriers to entry and is an important sector for food processing, value-adding and job creation throughout the country.

### CHALLENGES

The challenges faced by the poultry sector include costly feed, the small scale of production, which makes South Africa a target for exports, market conditions and trade agreements have also brought significant quantities of low-priced chicken products into our market. There is also an inability to export to available markets due to sanitary and phytosanitary requirements. Transformation also remains a challenge throughout the value chain of the sector.

There is a need to expand the poultry sector and avoid losing local capacity. The aim is therefore to contain imports. In addition, there should be decisive action against unfair forms of trade and any attempts to dump poultry products in our market.

**Ikageng Maluleke, Agricultural Economist, Grain SA. Send an email to [Ikageng@grainsa.co.za](mailto:Ikageng@grainsa.co.za)**



### PILLAR ONE

Out of the five pillars identified on the master plan to further develop and support the local poultry sector, pillar one relates to the grain sector and how grain farmers can be involved in uplifting the poultry industry. This relates to the expansion of production in maize and soybeans.

#### PILLAR 1: EXPANDING AND IMPROVING PRODUCTION TARGETS TO BE MET BY 2023.

##### Programme

1.1: Strategic partnership between SAPA and Grain SA to increase the supply of maize and soybeans to the poultry sector and to reduce prices.

##### Requirements

- Expand the consumption of poultry feed by 300 000 tons per annum.
- Explore mechanisms to use this higher level of demand to negotiate better prices.

##### Target commitments

- Additional 300 000-ton consumption of soybean/maize supporting approximately 300 new jobs.

##### Oversight/Responsibility

- IDC to partner with Grain SA and SA Poultry Association (SAPA) to explore possible arrangements to increase supply in targeted areas, and to reduce costs.
- Council to identify additional steps to achieve this goal. ■



*Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organisational objectives. It is the fuel that allows common people to attain uncommon results.*

~ ANDREW CARNEGIE,  
BUSINESS MAGNATE AND PHILANTHROPIST



# THE CORNER POST

## ANDRÉ (CHOOKS) LOUWRENS

*Actions and not intentions are rewarded*

**A** BRITISH PHILANTHROPIST FROM THE 19TH CENTURY, JOHN RUSKIN, BELIEVED THAT THE HIGHEST REWARD FOR A PERSON'S TOIL IS NOT WHAT THEY GET FOR IT, BUT WHAT THEY BECOME BY IT. ANDRÉ (OR CHOOKS AS HE IS BETTER KNOWN) LOUWRENS FROM THE EASTERN CAPE EXPERIENCED THIS IN HIS FIRST SEASON AS A MENTOR.

Not only did mentoring farmers who were part of Grain SA's mentorship programme change his attitude about fellow South Africans, but he also witnessed a change in most of his farmers.

Chooks and Luke Collier, Grain SA Development Coordinator in Kokstad, became friends when they worked together on a farm in the Eastern Cape. When Luke became involved in the mentorship programme, he brought Chooks on board because of his vast farming knowledge and fluency in Xhosa.

Chooks grew up on a farm in the area. Unfortunately, when he was still young, his dad lost the farm. However, with farming running in his veins he eventually managed to buy a farm with his brother in 1996. After buying out his brother, he decided to lease the farm out as this entrepreneur first tried other ventures before settling down – after a long detour – where he belongs.

Currently he has a mixed farming operation where he cultivates 120 ha of maize, 30 ha of cabbage, 30 ha of wheat and 20 ha of potatoes and also owns some livestock. He also imports cabbage bags, which he sells to local cabbage farmers. 'In this way I don't over-pressurise the farm. It would definitely have made things easier to have inherited the farm.'

### QUALITY MAKES THE DIFFERENCE

In his first season as mentor, a group of 155 farmers was assigned to Chooks. To him five of these farmers really have great potential to become successful commercial farmers. He is still in close contact with some of them and even shared some of his seed potatoes with one of the farmers in the Mount Frere area. 'He often contacts me to proudly share how well they are growing. Unfortunately, the farmers often buy inferior products at the co-op which delivers poor quality produce.'

Chooks hopes that there will be funding for Grain SA to continue with this programme. 'In our area the Grain SA farmers were getting much better yields than other farmers,' he says. He believes it is because the inputs provided through the programme are superior. To him, apart from correct agricultural practices, input is the most important thing for a better yield. 'What you use, makes a difference. It's a case of rubbish in, rubbish out.' On average the group under his mentorship improved their yields from 3 t/ha to nearly 7 t/ha. A female farmer in the area even managed a yield of 9 t/ha. 'She was desperate to improve her yield, so I suggested that she buys two bags of urea which she did. She then pain-stackingly spoonfed the plants, one teaspoon at a time.' This

just shows that a bit of extra work goes a long way. Not only did her hard work give her a high yield but gave her confidence a boost.

One of the stumbling blocks Chooks discovered amongst his group of farmers was that they are easily influenced. 'It is always to their disadvantage,' he says and adds, 'As I said, the inputs, chemical and mechanisation Grain SA provides is of a high standard. Unfortunately, they are often approached by agencies/companies with inferior products who convince them that their product is the better one.'

*What you use, makes a difference.  
It's a case of rubbish in, rubbish out.*

Once the farmers see the repercussions of using a cheaper, inferior product, it is too late to change it. 'By making mistakes they learn that three bags of 22% fertiliser is not three bags of 40% fertiliser!' They say that good decisions come from experience, but experience comes from bad decisions. Although the outcome was unpleasant, it was a valuable life lesson that you have to spend money to make money.

Another problem he identified was that some of the contractors give the farmers bad advice as it will simplify their job. 'The biggest one was that the farmers should burn the stover which of course causes soil problems.' Selling and pricing are also areas that are problematic. 'I discovered that people who say they are helping them are often deceiving them.'

### CHANGE IS PART OF THE PROGRAMME

One of the inspiring things that the author of the world bestseller, *The 7 habits of highly effective people*, Stephen Covey, said, is that most people spend too much time on what is urgent and not enough time on what is important.

Chooks admits that he usually makes decisions from a financial point of view, but that his outlook has changed through his involvement in the mentorship programme. By the end of his mentoring term, he found it very humbling to discover that a person can make a life changing impact on others in such a short time. 'It is strange to think that relationships can form in such a short time. Many of the farmers still keep in contact. It is almost a teacher student relationship with especially the older farmers who are desperate to learn and improve their farming skills.' ■

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







# A FUTURE OF PROSPERITY



## **DEKALB® seed ... the key to your future prosperity**

With the outstanding quality and advanced genetics of **DEKALB®** seed, you can look forward to an abundant crop and successful harvest. Planting **DEKALB®** innovation ensures you of the latest technology and research, supported by expert advice and professional service to unlock your full potential.



**DEKALB®** is a registered trademark of Monsanto Technology LLC.  
Bayer (Pty) Ltd.  
PO Box 143, Isando, 1600.

[www.dekalb.co.za](http://www.dekalb.co.za) [DEKALB South Africa](#)

[f](#) DEKALB SA [@](#) dekalbsa