

GRAANGIDS

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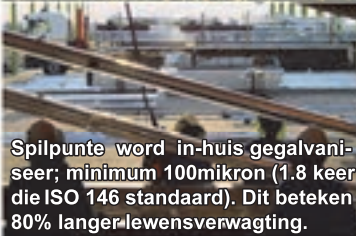
GRAIN GUIDE



AGRICO Spilpunte & Lineêre Besproeiers



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Sophisticated food value chain essential for food security



The single biggest asset that South Africa and all its citizens own is the relatively cheap, high-quality food that is produced for society by 39 000 commercial farmers and a growing new generation of farmers.

This privilege that all South Africans enjoy is feasible only through a sophisticated food value chain within which producers collaborate with commercial banks, the Land Bank, agricultural businesses, input providers and processors of agricultural commodities. Land reform is imperative. The defence of our constitution and food security should enjoy the same status. Only by pursuing the letter and spirit of our constitution will we retain sufficient investor confidence – which is directly responsible for the asset of food security. The free market system that is currently used in South Africa has served the public excellently.

The cheapest way of feeding the population of South Africa is to allow producers in South Africa to produce an exportable surplus of the dominant commodity, namely maize. The fact that there is a marked difference between the import and export parity of maize, which is used as a source of food by producers (red meat, dairy, poultry, pork production), emphasises this statement. On the basis of this price formulation fact, we can rightly argue that maize producers have by way of their production ability been subsidising the consumer indirectly for a number of years with the cost of the feed they consume.

The appetite of primary producers as borrowers as well as financiers of capital is undermined by political rhetoric and the evil of our time, namely corruption. I ask the pertinent question (which must be answered): How can South Africa spend R88 billion on land reform if less than 6% of all land in South Africa (with a total value of R190 billion) has in fact been reformed? Grain SA also reminds society of the fact that we will in any case have to ad-

dress the climate realities that can lead to a drastic shrinkage in production.

Hopefully politicians and policy makers will take these facts into consideration in their endeavours to formulate agricultural and land policies that will not further destabilise commodity production in South Africa, for we are dealing with the future sustenance of our nation. Of course land reform, an imperative shared by all South Africans, can only be addressed by cooperation between the public and private sectors and all those involved along the entire value chain of commodity production. For only until as such time as we can instil this essential cooperation will we, as a nation, rise to the challenges of the implementation of values of the letter and the spirit of our constitution and, in doing so, redress our tragic history.

This *Grain Guide* is proof of the ability of the agricultural industry – from primary production to the processing of agricultural products – to ensure food security. If we can sustain this essential cooperation there is no reason why sustainable land reform cannot be applied and carried out successfully without undermining our constitutional rights to ownership and food security. The choices of everybody in the value chain are obvious. Regardless of everything, our joint future is in the hands of our Heavenly Father and Mother Nature.

All the best with the coming production season.

Louw Steytler,
chairperson: Grain SA

Get your support network in place



The past year was a difficult production year, particularly for summer crops. The drought caused many producers to reflect seriously again on what to plant in future, and how the production system on each farm should be adjusted to the changes in the climate. Agricultural practices, together with future implement purchases, may just determine whether you will still be planting in the future or not.

Our input financiers put a lot of thinking into the new season. Even irrigation producers had to make new plans because of the irregular power supply. In the southern production areas it seems as if the Southern Cape and the Overberg fared better than the Swartland. Rain made the difference.

Grain SA's Grain Guide says a lot about the partnerships in the grain value chain. These are the people who join us in taking responsibility for keeping grain production sustainable. When the margins of your business are under as much pressure as in the past season, it is time to take another look at all your support services and make sure that they are in place to travel by your side – uphill and downhill!

Research

Over the past few years research has been given a new focus in Grain SA. We have to take increasing responsibility for managing it ourselves and establishing the right capacity in the right places. We also exploited new financing sources for research and are in the process of implementing these. Adjustments with respect to tillage practices and new technology will be the passwords for successful, sustainable production. I believe that the existing and new research consortiums will in the future hold great benefits for our members. Some of the agreements will probably also be concluded with international scientists and institutions.





Wheat industry

Grain SA has been negotiating a turnaround strategy for the wheat industry since 2014. All the role-players agree that this is necessary, but there is not always consensus everywhere about how things should be done. The ultimate goal is to improve the profitability of the wheat industry and to be less dependent on imports.

Demand for grain

The demand for grain and grain products, locally and internationally, is still very big. The growing middle class and urbanisation are the main driving forces behind this. Grain SA is still searching for new international markets for our producers. One of the targets is the Middle East. Soybean production has reached a new record and definitely offers the north an alternative crop in a crop rotation system. The initiative of the industry in collaboration with the government to create new processing capacity as part of our import replacement policy definitely bore fruit.

Land reform

The land reform debate is still fierce and the uncertainty about this has had a depressing effect on investor confidence. Grain SA is part of organised agriculture's team that intends protecting the interests of our members in this regard, maintain food security and achieve the country's transformation objectives. This is no small challenge.

In conclusion

Nobody can make decisions for you about what happens on your farm. Let the market guide you and the market will reward you for this. Make sure your partners and support services are in place, because they are at the spearhead of innovation and work with the latest technology. Grain SA will still endeavour to provide the best possible policy environment for you to flourish. May it be a good year!

***Jannie de Villiers,
CEO: Grain SA***

Handy contact details

Organised agriculture

Grain SA	navrae@grainsa.co.za	086 004 7246
Potatoes South Africa	ontvangs@potatoes.co.za	012 349 1906
African Farmers Association of South Africa (AFASA)	info@afasa.za.org	012 492 1383
Agbiz	admin@agbiz.co.za	012 807 6686
Agri SA	agrisa@agrisa.co.za	012 643 3400
Agri Gauteng	hswanepoel@agrigauteng.com	012 643 3400
Mpumalanga Agriculture	robert.mpl@mweb.co.za	017 819 1295
Agri Limpopo	info@agrilimpopo.co.za	015 590 1024
Agri Northern Cape	henning@agrinc.co.za	053 832 9595
Agri NW	agrinw@lantic.net	018 632 2987
Agri Eastern Cape	natasja.barkhuizen@agriec.co.za	041 363 1890
Agri Western Cape	jeanne@awk.co.za	021 860 3800
KwaZulu-Natal Agricultural Union (KWANALU)	info@kwanalu.co.za	033 342 9393
Milk Producers Organisation (MPO)	info@mpo.co.za	012 843 5600
Transvaal Agricultural Union (TLU SA)	koms@tlu.co.za	012 804 8031
Free State Agriculture	info@vslandbou.co.za	051 444 4609

Government

Department of Health	dg@health.gov.za	012 395 8000
Department of Trade and Industry	contactus@thedti.gov.za	086 184 3384
Department of Agriculture, Forestry and Fisheries	enquiries@daff.gov.za	012 319 6000
Department of Rural Development and Land Reform	lucky.legodi@drdlr.gov.za	012 312 8911
Department of Mineral Resources	enquiries@dmr.gov.za	012 444 3000
Department of Environment Affairs and Tourism	callcentre@environment.gov.za	012 399 9000
Department of Water and Sanitation	msemek@dwa.gov.za	012 336 6828
Department of Transport	khozaC@dot.gov.za	012 309 3657
Gauteng Provincial Government	vlanga@gpl.gov.za	011 498 5757
Industrial Development Corporation	callcentre@idc.co.za	086 069 3888
International Trade Administration Commission (ITAC)	info@itac.org.za	012 394 3688
KwaZulu-Natal Provincial Government	kznonline@kznpremier.gov.za	080 059 6596
Limpopo Provincial Government	talk2me@premier.limpopo.gov.za	080 086 4729
Mpumalanga Provincial Government	mokope@mpg.gov.za	013 766 0000
National Agricultural Marketing Council (NAMC)	info@namc.co.za	012 341 1115
National Crop Estimates Committee (NCEC)	ronaB@daff.gov.za	012 319 8032
Northern Cape Provincial Government	premierspa@ncpg.gov.za	053 838 2600
North West Provincial Government	bsetswambung@nwpg.gov.za	018 388 3456
Independent Police Investigative Directorate (IPID)	complaints@ipid.gov.za	012 399 0000

Eastern Cape Provincial Government	www.ecprov.gov.za	040 609 6626
Free State Provincial Government	premier@premier.fs.gov.za	051 405 5496
Western Cape Department of Agriculture	info@elsenburg.com	021 808 5111
Western Cape Provincial Government	service@westerncape.gov.za	086 014 2142

Integrated pest control

Agricultural Chemical Distribution Association of South Africa (ACDASA)	hettie@avcasa.co.za	011 805 2000
Croplife South Africa	info@croplife.co.za	011 805 2000
Association of Veterinary and Crop Associations of South Africa (AVCASA)	hettie@avcasa.co.za	011 805 2000
Toxin work group	neshet@tiscalia.co.za	082 446 8946
Registrar: Act No. 36 of 1947	malutam@daff.gov.za	012 319 7303
Redbilled Quelea Control Centre	khulisog@daff.gov.za	012 309 5823
South African Animal Health Association (SAAHA)	info@saaha.co.za	011 805 2000

Agricultural Research Council

Agricultural Research Council (ARC) Head Office	nkami@arc.agric.za	012 427 9700
ARC-Grain Crops Institute	jamesm@arc.agric.za	018 299 6100
ARC-Institute for Soil, Climate and Water	iscwinfo@arc.agric.za	012 310 2500
ARC-Institute for Agricultural Engineering	iaeinfo@arc.agric.za	012 842 4017
ARC-Irene Animal Improvement Institute	ulecuona@arc.agric.za	012 672 9111
ARC-Small Grain Institute	burgere@arc.agric.za	058 307 3400
ARC-Onderstepoort Veterinary Institute	ovi-info@arc.agric.za	012 529 9111

Fertiliser

Agri Laboratory Association of South Africa (AgriLASA)	dhattingh@nviroteklabs.co.za	082 885 8699
Fertiliser Association of Southern Africa (FERTASA)	general@fertasa.co.za	012 349 1450

Markets

Animal Feed Manufacturers Association (AFMA)	admin@afma.co.za	012 663 9097
Arbitration Foundation of South Africa (AFSA)	info@arbitration.co.za	011 320 0600
National Wool Growers Association (NWKV)	nwga@nwga.co.za	041 365 5030
National Chamber of Milling (NCM) – wheat and maize	info@grainmilling.org.za	012 663 1660
Perishable Products Export Control Board (PPECB)	ho@ppecb.com	021 930 1134
SA Soyfood Association (SASFA)	info@ssa.org.za	012 807 7600
SA Association for Crop Production (SAACP)	sascp.secretariat@gmail.com	018 299 6346
South African Futures Exchange (Safex)	info@jse.co.za	011 520 7000

Continued on p. 8

Handy contact details

Continued from p. 7

South African Cereals and Oilseeds Trade Association (SACOTA)	admin@afma.co.za	012 663 9097
South African Grain Information Service (SAGIS)	info@sagis.org.za	012 941 2050
Southern African Grain Laboratory (SAGL)	info@sagl.co.za	012 807 4019
Red Meat Producers Organisation (RPO)	admin@rpo.co.za	012 348 1933

Tractors, harvesters and implements

South African Agricultural Machinery Association (SAAMA)	agfacts@worldonline.co.za	011 453 7249
South African Institute of Agricultural Engineers (SAIAE)	boeboe@saili.co.za	012 842 4043

Seed

South African National Seed Organisation (SANSOR)	genman@sansor.co.za	012 472 9516
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Trusts and foundations

Grain Farmer Development Association (GFADA)	ishmael@gfada.co.za	012 007 1152
Maize Trust	l-lagric@mweb.co.za	012 807 3958
Oil and Protein Seeds Development Trust (OPOT)	info@opot.co.za	011 234 3400/1
Protein Research Foundation (PRF)	maria@proteinresearch.net	011 234 3400
Sorghum Trust	l-lagric@mweb.co.za	012 333 3429
Winter Cereal Trust	simon.letsoalo@wctrust.co.za	012 007 1201

Education

Agri Sector Education and Training Authority (AgriSETA)	info@agriseta.co.za	012 301 5600
Cedara College of Agriculture (KwaZulu-Natal)	college@kzndae.gov.za	033 355 9304
Elsenburg College of Agriculture (Western Cape)	mariusp@elsenburg.com	021 808 5451
Fort Cox College of Agriculture (Eastern Cape)	unathi.mbangeni@fortcox.ac.za	040 653 8033/5/8
Glen College of Agriculture (Free State)	taole@fs.agric.za	051 861 8637
Groofterfontein College of Agriculture (Eastern Cape)	info.principal@gfn.agric.za	049 802 6600
Madzivhandila College of Agriculture (Limpopo)	mudauks@gmail.com	015 962 7200
North-West University	amanda.vandermerwe@nwu.ac.za	018 299 4897
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Potchefstroom College of Agriculture	oplwn@potch1.agric.za	018 299 6721
Taung College of Agriculture	avanheerden@nwpg.gov.za	053 994 9800
Timpi Seleka College of Agriculture (Mpumalanga)	wswana@yahoo.com	013 268 9300

Tsolo College of Agriculture (Eastern Cape)	hamilton.ntsabo@ecape.gov.za	047 542 0221
University of Limpopo	marketing1@ul.ac.za	012 521 4563
University of the Free State	info@ufs.ac.za	051 401 9111
University of Fort Hare (Eastern Cape)	registrar@ufh.ac.za	040 602 2501
University of Mpumalanga	sandile.mabuza@ump.ac.za	013 753 3065/7/8/9
University of Pretoria	csc@up.ac.za	012 420 3111
University of Stellenbosch	info@sun.ac.za	021 808 9111
University of Venda	communications@univen.ac.za	015 962 8000
University of KwaZulu-Natal	enquiries@ukzn.ac.za	031 260 1111
University of Zululand	admissions@unizulu.ac.za	035 902 6000
University of South Africa	infoservices@unisa.ac.za	012 429 3111

Emergency numbers

Petrol and diesel spillage

• Spill Response Team	info@wasteman.co.za	086 117 4448
• Drizit SA	drizit@iafrica.com	031 274 2300
• Enviroserv	clientservices@enviroserv.co.za	080 019 2783
• Rapid Response	info@rapidspillresponse.com	080 017 2743

Chemical spillage

• Dr Gerhard Verdoorn	nesh@tiscalli.co.za	082 446 8946
• South African Petroleum Industry Association (SAPIA)	info@sapia.co.za	011 783 7664

Fire

• Fire Protection Association of South Africa (FPASA)	library@fpasa.co.za	011 397 1618/9
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Conversion tables and formulae

WEIGHT

Wheat and soybeans

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

One metric ton is equal to:

Wheat: bu/acre x 0,06725 = metric tons/hectare

Maize and sorghum

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

One metric ton is equal to:

Maize: bu/acre x 0,06277 = metric tons/hectare

Barley

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

One metric ton is equal to:

Barley: bu/acre x 0,05380 = metric tons/hectare

Oats

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

One metric ton is equal to:

Oats: bu/acre x 0,03587 = metric tons/hectare

TEMPERATURE

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

C = 5/9 (F - 32) F = 9/5 (C + 32)

FOR CONVERSION, MULTIPLY BY...

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

AREA OF LAND EQUIVALENTS

1 hectare	= 2,4710 acres
1 square mile	= 640 acre (259 hectares)
1 acre	= 0,404694 hectares
	= 43,560 square feet
	= 4,4800 square yards

Source: www.isg.co.za • www.sagis.org.za

OTHER

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

1 TON (METRIC TON) IS EQUAL TO

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

METRIC WEIGHT AND CONVERSION

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

ESTIMATED CAPACITY OF RESERVOIRS (IN LITRES)

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

MOISTURE CONTENT ON DELIVERY

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

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

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

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

$$\begin{aligned} \text{Formula: } & \frac{(100\% - \text{delivery } \%)}{(100\% - \text{standard } \%)} \\ & = \frac{(100\% - 14\%)}{(100\% - 12,5\%)} \\ & = \frac{86\%}{87,5\%} \\ & = 0,9828 \end{aligned}$$

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

Source: www.isg.co.za • www.sagis.org.za

Rainfall calendar 2016

	JAN	FEB	MAR	APR	MAY	JUN
1	Fri	Mon	Tues	Fri	Sun	Wed
2	Sat	Tues	Wed	Sat	Mon	Thur
3	Sun	Wed	Thur	Sun	Tues	Fri
4	Mon	Thur	Fri	Mon	Wed	Sat
5	Tues	Fri	Sat	Tues	Thur	Sun
6	Wed	Sat	Sun	Wed	Fri	Mon
7	Thur	Sun	Mon	Thur	Sat	Tues
8	Fri	Mon	Tues	Fri	Sun	Wed
9	Sat	Tues	Wed	Sat	Mon	Thur
10	Sun	Wed	Thur	Sun	Tues	Fri
11	Mon	Thur	Fri	Mon	Wed	Sat
12	Tues	Fri	Sat	Tues	Thur	Sun
13	Wed	Sat	Sun	Wed	Fri	Mon
14	Thur	Sun	Mon	Thur	Sat	Tues
15	Fri	Mon	Tues	Fri	Sun	Wed
16	Sat	Tues	Wed	Sat	Mon	Thur
17	Sun	Wed	Thur	Sun	Tues	Fri
18	Mon	Thur	Fri	Mon	Wed	Sat
19	Tues	Fri	Sat	Tues	Thur	Sun
20	Wed	Sat	Sun	Wed	Fri	Mon
21	Thur	Sun	Mon	Thur	Sat	Tues
22	Fri	Mon	Tues	Fri	Sun	Wed
23	Sat	Tues	Wed	Sat	Mon	Thur
24	Sun	Wed	Thur	Sun	Tues	Fri
25	Mon	Thur	Fri	Mon	Wed	Sat
26	Tues	Fri	Sat	Tues	Thur	Sun
27	Wed	Sat	Sun	Wed	Fri	Mon
28	Thur	Sun	Mon	Thur	Sat	Tues
29	Fri	Mon	Tues	Fri	Sun	Wed
30	Sat		Wed	Sat	Mon	Thur
31	Sun		Thur		Tues	

● **New moon**

◐ **First quarter**

○ **Full moon**

◑ **Last quarter**

JUL	AUG	SEP	OCT	NOV	DEC	
Fri	Mon	Thur ●	Sat ●	Tues	Thur	1
Sat	Tues ●	Fri	Sun	Wed	Fri	2
Sun	Wed	Sat	Mon	Thur	Sat	3
Mon ●	Thur	Sun	Tues	Fri	Sun	4
Tues	Fri	Mon	Wed	Sat	Mon	5
Wed	Sat	Tues	Thur	Sun	Tues	6
Thur	Sun	Wed	Fri	Mon ☾	Wed ☾	7
Fri	Mon	Thur	Sat	Tues	Thur	8
Sat	Tues	Fri ☾	Sun ☾	Wed	Fri	9
Sun	Wed ☾	Sat	Mon	Thur	Sat	10
Mon	Thur	Sun	Tues	Fri	Sun	11
Tues ☾	Fri	Mon	Wed	Sat	Mon	12
Wed	Sat	Tues	Thur	Sun	Tues	13
Thur	Sun	Wed	Fri	Mon ☽	Wed ☽	14
Fri	Mon	Thur	Sat	Tues	Thur	15
Sat	Tues	Fri ☽	Sun ☽	Wed	Fri	16
Sun	Wed	Sat	Mon	Thur	Sat	17
Mon	Thur ☽	Sun	Tues	Fri	Sun	18
Tues	Fri	Mon	Wed	Sat	Mon	19
Wed ☽	Sat	Tues	Thur	Sun	Tues	20
Thur	Sun	Wed	Fri	Mon ☾	Wed ☾	21
Fri	Mon	Thur	Sat ☾	Tues	Thur	22
Sat	Tues	Fri ☾	Sun	Wed	Fri	23
Sun	Wed	Sat	Mon	Thur	Sat	24
Mon	Thur ☾	Sun	Tues	Fri	Sun	25
Tues	Fri	Mon	Wed	Sat	Mon	26
Wed ☾	Sat	Tues	Thur	Sun	Tues	27
Thur	Sun	Wed	Fri	Mon	Wed	28
Fri	Mon	Thur	Sat	Tues ●	Thur ●	29
Sat	Tues	Fri	Sun ●	Wed	Fri	30
Sun	Wed		Mon		Sat	31

● New moon

☾ First quarter

☽ Full moon

☾ Last quarter

THE FUTURE ROLE OF DATA SCIENCE IN THE GRAIN INDUSTRY OF SOUTH AFRICA

Agriculture is receiving increasing attention globally because authorities realise that it is the key to food security and increasing food production for a growing population. Grain production must increase every year to meet this growing demand. In South Africa there are two ways of increasing production, namely bringing more land into production (unutilised land), and improving the effectiveness and productivity of the current grain production system. That is why we must focus on the links between the land, people and technology.

Data science is a relatively new concept and refers to technology that manages large volumes of data from various sources to develop a system with built-in intelligence. The role of data science in agriculture includes three concepts:

- Facilitating effective decision-making and problem-solving through computerised data management.
- Refining, analysing and visualising data to deduce profitable insights.
- Therefore data science creates value from data by converting information from farming activities into decisions, which leads to increased profitability.

Producers gather data every day – consciously and unconsciously. Some of them use external sources, while other data comes from internal sources. External sources include information from other farmers, agricultural articles and institutions like Grain SA, while internal sources include the producer’s own records system and farm information system. Data science can be applied to promote internal and external decision-making. **Figure 1** is an example of how data can be gathered and applied on a farm.

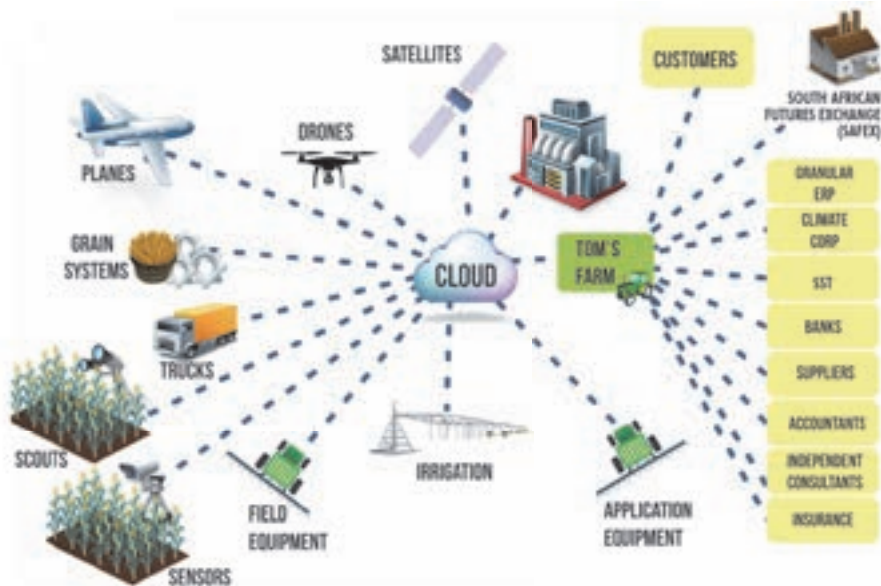


Figure 1: Sources and application of data on a farm (Tom, 2014).

The application of data science in modern-day agriculture can enable producers to analyse weather patterns, soil health, weed and pest control at the same time and this enables them to make quick, informed decisions that result in better outcomes and increased productivity. This makes it possible for the producer to assess all management decisions (past, present and future) on the basis of agronomic analysis of data gathered in the field.

The role of data science in agriculture and the grain industry will increase in the future. Producers will hear about it more and data services will become more available as organisations start investing in them and service providers are established. Producers will discover the value of their data and pay more attention to the accuracy with which they gather data.

Producers who already use precision farming systems will quite probably be among the first to discover the full value of data science. Experts feel that the application of data science is something that will change agriculture as we know it.

Reference:

Tom, K. (2014) *The Green Data Revolution*. Frankfurt, Germany.

Landi Kruger, data science co-ordinator: Grain SA

Farm security – measure and determine your status

Security status is a theme that is very topical these days and should be revisited regularly. Measure yourself against these questions and do something about the weaknesses. Being alert, observant and prepared will definitely help you in a difficult situation.

- Is there an emergency plan for different incidents and does everybody know what to do then?
- Do you, your family and workers still apply the safety measures and do you practise the emergency plan regularly?
- Do you have a protocol in place to deal with, for example, uninvited visitors who come looking for work?
- Do you have a protocol in place to check and verify the identification of uninvited and invited visitors?
- Do you tend to follow a specific routine, for example, do you always stop in the same place when you come from town?
- Is there an early warning system for your farm and is it still effective?
- Are you always on the lookout for strangers on your farm?
- Will your employees report strangers and strange vehicles on your farm?
- Do you inform the community of possible suspect persons or vehicles in the area?
- Is the attitude of your employees such that they will protect your family if you are not there?
- Do you handle as little cash as possible and do your workers know that there is no real cash in the house or office?
- Do you approach all strangers with the necessary caution? (You never know whether they are armed or not.)
- Is the security fence still effective in combating undesirable access?
- Are the security doors and gates and burglar bars of your houses still effective and adequate?
- Is there a security gate in your home that can effectively separate the bedrooms from the rest of the house and do you lock this gate at night?
- Do you have a dog that sleeps in the house at night?
- Are the security lights and alarm system still effective and in working order?
- Are the guard dogs and alternative warning mechanisms still effective?
- Do you have alternative communication systems in addition to the landline or personal cellphones (for example, contact with the neighbours and the police or a hidden cellphone in a room)?

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ROAD TRAFFIC ACT: NEW CONSIGNOR AND CONSIGNEE PROVISIONS

The National Road Traffic Act of 1996 was amended in October 2014 to make provision for legislation regarding the consignor and consignee. Certain consignors and consignees are now obliged to comply with legislation that ensures that overloaded trucks are not driven on public roads and goods on such vehicles are not accepted at destinations. The provisions for consignors and consignees – Regulations 330A and 330D – came into effect on 31 January 2015.

The aim of the legislation is to ensure that vehicles are loaded correctly and that the load is distributed correctly on the vehicle. This protects roads and bridges against damage caused by overloaded vehicles and ensures that vehicles are loaded securely.

The regulations provide that a consignor must ensure that a vehicle is loaded legally (axes and the total mass). A goods declaration is also required in terms of Regulation 330C and must be available in freight vehicles. The definitions of consignor and consignee are important and must be understood to understand the scope of the legislation.

If a company is responsible for goods immediately before consignment and the company consigns more than 500 tons of goods per month, it must comply with the regulations.

Definitions of consignee and consignor

‘Consignee’, in relation to goods transported or to be transported by a vehicle means the person (excluding a consignee of dangerous goods in terms of regulation 273), who is named or otherwise identified as the intended consignee of more than 500 000 kilograms of goods in a month in the goods declaration for the consignment and who actually receives such goods after they are transported by road.

‘Consignor’ means a person (excluding a consignor of dangerous goods in terms of regulation 273), who is named or otherwise identified as the consignor of goods in the goods declaration relating to the transportation of more than 500 000 kilograms of goods in a month by road or engages an operator of a vehicle, either directly or indirectly or through an agent or other intermediary, to transport the goods by road or has possession of, or control over, the goods immediately before the goods are transported by road or loads a vehicle with the goods, for transport by road, at a place where goods are stored in bulk or temporarily held but excludes a driver of the vehicle, or any person responsible for the normal operation of the vehicle during loading.

The legislation requires a vehicle being despatched from a consignor to have a goods declaration containing the following information:

- The licence number of every vehicle in the combination of vehicles.
- The nature and quantity of goods being transported.
- The contact details of the operator or, in the case of a combination of vehicles, every operator in the combination of vehicles.
- The details of the consignee of the load or, in the case of loads collected from more than one consignee, the details of each consignor or addressee.
- The name, residential and postal address of every natural person or, in the case of a legal entity, the director or member responsible, an agent, consignor, addressee or operator mentioned in the declaration.

- A written agreement for the transport of goods between the consignor and operator, setting out:
 - The nature of the agreement.
 - The loading instructions.
 - The responsibilities of the parties.
- Schedule of insurance covering possible incidents with the vehicle.

The insurance must be checked by the consignor and consignee and they are therefore liable for ensuring that the operator does in fact have insurance for protecting third parties. Although legislation does not oblige a consignor to have a weighbridge, it requires the consignor to have a method to determine the mass of the axes and the vehicle to ensure that it is not overloaded. In the case of farm produce a weighbridge would be the most practical solution to comply with legislation.

For further information, contact Alta Swanepoel on 012 332 2186 or send an email to altaswanepoel@mweb.co.za.

Alta Swanepoel, Alta Swanepoel & Associates CC

Farm security – measure and determine your status

Continued from p. 15

- Do you and your family's cellphones, as well as the hidden cellphone, contain a list of whom to contact in the case of an incident?
- Are the areas around your gates and at T junctions open so that a surprise attack is difficult to launch?
- Is your garden laid out in such a way that there are no easy hiding places?
- Do you have unique plans to ensure your safety and to outsmart criminals?
- Do you keep the security gates locked during the day?
- Are you alert when you unlock gates?
- Would you open the security gate to strangers without the necessary identification?
- Do you have immediate access to your firearms?
- Can you and your family handle firearms and use them effectively if required?
- Will your family be able to assist you if an incident occurs or if you are attacked?
- Will your family be able to ward off an attack effectively?
- Are your employees sufficiently trained and informed to assist you or get help if you are attacked?
- Are your employees able to defend themselves?
- Do you know how to apply first aid and is your first-aid kit up to standard?
- Do you know the neighbours and do they know you, your people and your workers?
- Do your neighbours know the setup on your farm as well as access routes to the farm and workers?
- Do you contact the neighbours regularly to determine whether everything is fine?
- Do your neighbours know when and for how long you are away from home and do they keep an eye on your family and property?
- Do you and your neighbours exchange ideas to promote security?
- Are the stores and the workshops and tools in particular, for instance angle grinders, locked away properly at night?
- Are the fuel tanks, poison stores, etcetera properly locked?
- Do you control your keys and store them in different places?
- Are you informed about what the law permits with respect to the arrest of a suspect and the handling of such a suspect?
- Are you part of the Rural Protection Programme and do you regularly receive the information provided by the SAPS?

Pietman Botha, agricultural consultant

Manage labour risk proactively

Every business aims to be profitable and sustainable. Labour legislation is non-negotiable, therefore it is important for employers to address labour as a business risk in a proactive manner. It is important to take the role labour plays in the work environment into account. Below are a few guidelines for proactively managing labour risk.

1. Registration

All employers must register with the Compensation Commissioner and all occupational injuries must be reported to ensure that employers and employees are compensated accordingly. Employers must also register with the Unemployment Insurance Fund (UIF) and have a further obligation to register all employees who work more than 24 hours a month with the UIF and to ensure that the prescribed amounts are deducted and paid over. During an inspection by the Department of Labour the inspector will always check on this.

2. Employment contracts

The employment contract is the foundation of the service relationship between the employer and the employee and contains the terms and conditions agreed upon. Terms and conditions of an oral agreement cannot always be proven. A written agreement (the employment contract) therefore creates security and clarity between the employer and the employee and the risk of disputes regarding the conditions of employment is reduced. The employment contract is essential for managing labour relations in the workplace.

- Basic requirements that are prescribed by labour legislation:
 - Employer's particulars
 - Employee's particulars
 - Commencement date
 - Remuneration
 - Working hours
 - Leave
 - Job description
 - Statutory notice
 - Statutory deductions
 - Type of contract (fixed term or permanent)
- Additional clauses to manage labour risk proactively:
 - Retirement age

- Additional deductions
- Alcohol testing
- Trial period
- Medical testing
- Cameras in the workplace
- Searching of personal belongings
- Deduction of training costs when the employee resigns
- Short time
- Daily rest period
- Confidential information
- Restraint of trade agreement

3. General documentation

The management of labour relations has an administrative component that is extremely important, particularly when a dispute arises. Make sure the following are in place and that you keep copies of the information for three years.

- A **personnel file** must contain the following documentation: an employment contract, leave forms, payslips, disciplinary records, for instance warnings issued for misconduct, a copy of the employee's identity document/passport/work permit and the employee's personal information and contact details. Employers should make sure that this information is updated regularly.
- Labour legislation requires all employers to issue payslips to employees when wages are paid. The following information must appear on the **payslip**:
 - The name and address of the employer (business)
 - The name and surname and job designation of the employee
 - Period of payment
 - The wage and rate of the employee
 - Hours worked – normal work hours, overtime, Sunday time and hours worked on public holidays
 - Any other payment arising from the farm-worker's employment
 - Deductions
 - The employer's registration number with the Unemployment Insurance Fund (UIF) and the employee's contribution
 - The employee's net salary

We encourage employers to address labour risk proactively and also indicate the following

on every payslip:

- Leave taken and leave available
 - Proof of receipt of the payslip
- Employers must be informed regarding the requirements and responsibility with respect to leave in order to manage labour risk proactively and limit unnecessary costs. Labour legislation defines four types of leave: Annual, sick, family-responsibility and maternity leave. By specifying the types of leave and the number of days applicable in the employment contract, the employer assures that the employee is informed of the number of days to which they are entitled. We strongly recommend that employers implement a leave policy that sets out how and when employees can apply for leave – note that the policy may not be less beneficial than the applicable legislation that must be complied with. In order to ensure that leave does not infringe on operational requirements, the leave should be approved at the discretion of the employer.
 - A **sign-in register** keeps a record of all work hours (normal work hours, overtime, Sunday time and hours worked on public holidays) and the taking of meal breaks. The sign-in register is essential evidence in the disciplinary process (absence or lateness), as well as in cases of injury on duty.

4. Legislation

Labour legislation requires the employer to have the appropriate legislation available on the premises for employees. The following must be available in the agricultural sector:

- Sectoral Determination 13, which regulates labour relations in the agricultural sector
- The Basic Conditions of Employment Act
- The Employment Equity Act
- The Occupational Health and Safety Act

5. Discipline in the workplace

- Clear **rules** and guidelines in the workplace ensure that friction and misunderstandings are limited, which promotes productivity and a positive work environment. The disciplinary code serves as guideline to employers with respect to appropriate sanctions for certain types of misconduct. The code ensures that all employees are aware of the rules in the workplace, and of the consequences if these rules are violated.

- The disciplinary procedure is used in cases of misconduct. Progressive discipline (warnings) is applied depending on the type of violation. The consultation procedure is used in cases of poor job performance and medical disability. It is essential to note that the employer can under no circumstances dismiss an employee without having followed the correct procedure. All dismissals must always be procedurally and substantively fair.

6. Policies

The aim of a policy is to provide rules with respect to a specific challenge in the work environment. We recommend that employers implement the following policies in the workplace: Smoking, sick leave, sexual harassment, cellphones and overtime.

7. Procedures

The aim of procedures is to establish steps to be followed with respect to a specific matter in the work environment. We recommend that employers implement the following procedures in the workplace: Grievance and appeal procedure.

8. Other general points that should receive attention from employers:

- Pay at least the minimum wage.
- The Employment Equity Act: Employers who qualify as 'designated employers' have certain obligations.
- Skills Development Act: Employers who meet the minimum requirements have certain obligations.
- The Occupational Health and Safety Act: It is the responsibility of the employer to create and maintain a safe and risk-free work environment. Additional regulations apply to employers who meet certain minimum requirements.
- If a trade union is involved in the workplace, it is important for employers to be familiar with the rights of all role-players.

Feel free to contact the LWO Employers Organisation on 0861 101 828 | info@lwo.co.za | www.lwo.co.za

**Crystal McLauchlin, legal adviser:
Agricultural Employers Organisation**

Prepare for the fire season in time

Veld fires cause major damage for producers every year. Frans Marx from Wolmaransstad, director of Suidwes and very successful head of the FPA, agreed to share a few pointers with us on the basis of his experience.

Tips for preventing veld fires

- Make and maintain your firebreaks in time every year. Every landowner and tenant is legally obliged to do so. Make sure they are free of flammable material – a bush slasher does not create a firebreak.
- Speak to workers regularly and teach them the risks of open fires.
- Make sure the areas where food is prepared on open fires are clear.
- You are advised to make wide firebreaks around your workers' homes.
- Do not do the following on days when there is a strong wind:
 - Use cutting wheels near dry grass.
 - Weld in the open (gates, windmills, straining posts, etc.).
 - Grade roads with a grader on stony ground.
 - Mow with bush slashers.
 - Mill feed.
 - Make baulks and burn fields.
- Tractors that have done light work for long periods and suddenly do heavy work can emit sparks from the exhaust, which can cause a fire.
- If you have to do any burning, do it early in the morning.
- Clear the shoulders of secondary roads and keep the grass short so that backfires can be made easily.

Tips for combating runaway veld fires

An overhead fire strategy should exist to prevent runaway veld fires. This is usually the task of the Fire Protection Association (FPA), but in cases where this association does not exist, producers can plan this themselves and draft a plan. This plan should cover the following:

- Plan where runaway fires will be stopped, in other words at major gravel roads or large firebreaks. It is important for all landowners (owners and tenants) to be thoroughly aware of where these points are, so that there is no doubt should a runaway fire occur, where the backfire should be made.
- Plan for three groups to stop a runaway fire:
 - Group 1 is the team that will make the backfire in order to stop the fire.
 - Group 2 is the team that moves in from the left, behind the fire, to extinguish it from behind.
 - Group 3 is the team that moves in from the right, behind the fire, to extinguish it from behind.
- Communication is extremely important and two-way radios should be used, as cellphones are ineffective.
- Good control of runaway veld fires is important. The FPA fire chief usually takes the lead, but if such an association does not exist, the owners should identify and appoint a leader. It is also important to identify other persons – at least three per region – who can take the lead.
- The aftercare (casting of dung, logs and other material that is still smouldering) is very important on either side of the fire so that another fire does not flare up. Someone should be tasked with this. By law the landowner is obliged to ensure aftercare at the fire.



- An early warning system must be planned. Two-way radios work well. Signs with cellphone numbers along main routes are also effective for involving the public to ensure fires are reported timeously.
- Water top-up points should be identified.
- Liaise with the police and the traffic police so that roads can be closed if thick smoke moves across roads so that traffic can be controlled. If powerlines are on fire, Eskom can also be involved.
- Plan training for landowners and farmworkers who will be involved in combating veld fires.

Tips during veld fires

- Check the speed and direction of the wind, as these determine how far ahead your backfires must be to stop the fire.
- Determine the point at which you will stop the fire and send the persons tasked with this to that spot to do so.
- Move in sections that have already burnt as much as possible, particularly on hot days when whirlwinds occur. Such a whirlwind can cause you to be caught up in the fire.
- Make sure that you always know where you are and where the section is that has already burnt so that you can go there if necessary.
- Do not move forwards if the fire is not completely extinguished behind you.
- Always fight the outside edges of the fire first; inside fires can be extinguished later. Make sure that you know where the outer flanks of the fire are.
- Always try to work in teams of three hoses, then you are usually sure that the fire behind you is extinguished.
- Always check your vehicle's heat gauge.
- Always make sure that enough people are involved with the backfire to stop the fire so that a second fire does not start. Only the fire chief can decide where a backfire is to be made.
- Always wear protective clothing and masks.
- Take enough drinking water with you and regularly consume water.
- Inform landowners threatened by the fire in time so that they can remove their stock – ± 10 km ahead for runaway fires.
- Always think clearly and do not take chances – your life is worth more!

Frans Marx, FPA Wolmaransstad

How is the permissible mass of a vehicle determined?

Legislation with respect to the overloading of vehicles requires a basic understanding of the reasons for overload control and the different aspects of the legislation regulating the loading of vehicles. The loading instructions for a vehicle are very important, as Regulation 330C requires a goods declaration in every goods vehicle to provide the consignor with the loading instructions of the operator (owner).

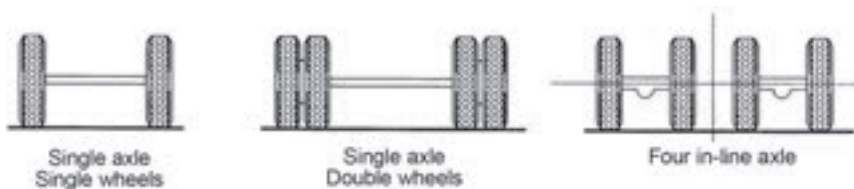
The legislation in this regard is contained in Regulations 231 to 248 of the National Road Traffic Regulations. The calculations below must be made for all vehicles to determine what the maximum mass and the payload of the vehicle are.

Permissible maximum axle massload

Regulation 234 is a formula for determining the permissible maximum axle massload of a motor vehicle. Regulation 234 provides that the permissible maximum axle massload may not be exceeded. That is the terminology used in the legislation. The three elements to be taken into account for axles and axle units are:

- The mass that can be carried by the tyres
- The manufacturer specifications
- The limits (to protect the roads)

Regulation 238 provides that SANS 1550 must be used to determine the mass that the tyres can carry. If the tyre is not listed, use the index on the side of the tyre.



Example: An axle with two wheels on either side has a gross axle massload (GA) of 10 200 kg and four size 11R22.5 tyres with a maximum tyre pressure of 850 and a maximum limit of 2 800 kg per tyre.

Calculation: Tyres $2\,800 \times 4 = 11\,200$ kg
Specifications of the manufacturer, GA = 10 200 kg
Limit to protect the road, Regulation 240 (c) (v) = 9 000 kg

The lower of the masses above is the permissible maximum axle mass. Thus 9 000 kg / – depending on which is the lower mass – becomes the permissible mass. The same principle applies to axle units. Prosecutions in terms of Regulation 235 are calculated on the same basis.

Regulations 236 and 237 – maximum permissible vehicle mass and combination mass

The permissible maximum vehicle combination mass or load is determined by Regulations 236 and 237. The calculation for a combination requires additional calculations. The elements to be used to determine the combination mass are:

- The sum of the axles. This means that the calculations done for the axles and axle units in terms of Regulations 234 and 235 must be added together.



An example of such a calculation is:

Axle A: BA 7 000 kg

Axles B and C: 18 000 kg

Axles D, E and F: 24 000 kg

The sum of the axles and axle units is 49 000 kg.

- GCM: Regulation 239 (1) (b) is the GCM. The information appears on the information plate mounted alongside the left front door of every vehicle. For example, GCM is 58 500 kg.
- P/D x 240: Regulation 239 (2) determines the mass permitted by the engine capacity of the vehicle. This is calculated by multiplying the P/D by 240 for ordinary goods vehicles and by 400 for tractors. Example: $206 \times 240 = 49\,440$ kg. (The tractor's P/D must be multiplied by 400.)
- Mass of the driving axle/s x 5: Regulation 239 (3) provides that a vehicle may not be used if the driving axle does not weigh at least a fifth of the mass of the entire vehicle. Therefore you should make sure that the load does not rest on the other axles and the driving axle does not bear sufficient weight. You must ensure that the vehicle has sufficient traction when climbing a hill. The mass of the entire vehicle may therefore not be more than five times the mass of the driving axles.
- Bridge formula: Regulation 241 (2) (e) refers to the bridge formula. The aim of this restriction is to protect bridges. The following must be taken into account:
- You must be able to measure any group of axles.
- Axle units may not be divided for measuring purposes.
- A measurement must be made from the middle of the first axle to the middle of the last axle of the group.

If the distance between axles A and E is 14,28 metres, it is rounded up to the next tenth of a metre (14,30). The calculation of the bridge formula is the distance between the axles $(L) \times 2\,100 + 18\,000$ kg.

As an example: $14,30 \times 2\,100 + 18\,000 = 48\,030$ kg

If all five the results are compared, the results are as follows:

- Sum of the axles 49 000 kg
- GCM 58 500 kg
- P/D x 240 kg 49 440 kg
- Driving axle x 5 89 250 kg
- Bridge formula 48 030 kg

The lower of the masses is the permissible combination mass: 48 030 kg.

Proviso: If all the calculations result in a mass of more than 56 000 kg, the maximum permissible mass is 56 000 kg. Remember that a steering axle of an articulated vehicle (horse and trailer) must carry at least 11% of the vehicle's mass, and other vehicles at least 20%.

For further information, contact Alta Swanepoel on 012 332 2186 or send an email to altaswanepoel@mweb.co.za.

Alta Swanepoel, Alta Swanepoel & Associates CC

LOAD SHEDDING: RIGHTS OF EMPLOYEES AND EMPLOYERS

Sectoral Determination 13 regulates labour relations in the agricultural sector, but does not make provision for specific incidents like load shedding, which can bring production to a standstill. However, there are options that employers can consider. Employers must be aware of their rights and the steps to be taken to limit their risk and still maintain sound labour practices and labour relations.

'No work, no pay' does not apply

When the power supply is interrupted during working hours and employees consequently cannot do their jobs, the employer is still responsible for paying his employees. If the employee is expected to be at work at a specific time on a specific date and the employee complies with these requirements, the employer is obliged to pay them for that period, even if the workers are unable to carry out their tasks. The obligation to pay does not arise from the actual execution of the work, but from the offer of the service or the production ability. Therefore, if the employee offers to work, but the employer cannot give him any work to do at that moment (due to load shedding), the employer is still obliged to pay his worker's salary.

Overtime and lunch

Employers can require their employees to take their meal break during load shedding to limit the loss of working hours. Keep in mind that meal breaks of longer than 75 minutes must be paid meal breaks, unless the farmworker lives on the premises. Payment for overtime work because of power failures is also a problem. Any work that is carried out after production times to catch up on lost production is regarded as overtime work and will be subject to overtime payment. Employers and employees can jointly agree to amend working hours and shifts to limit the consequences of load shedding.

Short time

When the employer is unable to keep his employees busy for the full contracted work period, because of load shedding or machinery

that is faulty, the employer is entitled to implement short-time layoffs by giving the employees 24 hours' written notice of this. As workers have to be given notice when short time is being considered, this will apply only when the employer has prior information on load shedding. When short time has been implemented, the employee's remuneration will be reduced accordingly with every hour less that is worked. The employer will have the sole discretion to catch up hours that have been affected by the short time on weekdays, Saturdays or Sundays. When short time is worked, the work that is available must be divided equally among employees so that they all have an equal opportunity to earn an income. Sectoral Determination 13 and the Basic Conditions of Employment Act do not make provision for the implementation of short time, and short time can therefore be implemented only by agreement between employers and employees.

Act proactively

We strongly recommend that employers make provision for unforeseen circumstances like load shedding by way of an employment contract containing clauses that regulate mealtimes, overtime and the implementation of short time. In this way the employer already has the employee's permission to implement short time and can limit potential losses earlier. Generators can also be employed in critical areas if they can be employed cost-effectively. The implementation of a load-shedding policy or action plan can be done in collaboration with employees. Load shedding is a reality and employers should therefore limit the negative consequences on their activities as far as possible through proactive measures.

Please contact the AEO on 0861 101 828 | info@lwo.co.za | www.lwo.co.za for assistance and/or advice in this regard. We are available 24/7.

Mariëtte Redelinghuys,
Agricultural Employers Organisation



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Do your own crop estimate

Yield estimates (for various crops) are refined regularly and financial institutions continuously conduct research on methods for determining accurate hail damage. This research is never regarded as completed. New fields are continuously being studied and existing procedures are tested and adapted to keep pace with, among other things, new cultivars and changed farming techniques.

One area that is studied in depth is the determination of crop yields or crop estimates. Certain formulae are developed and adjusted, but a thorough knowledge of, among other things, the farming branch and region remains important in determining a crop yield.

The following information should be used only as guidelines. However, it can be useful when producers want to estimate the potential crop yield. Keep in mind that there are many variables that can affect the accuracy of a crop or yield estimate. The closer you come to harvest time, the more accurate are the determinations that can be made, because the chance is smaller of major variables occurring. One of the most critical factors is the kernel mass. It not only varies considerably from one season to the next, but also within one season. Even after the crop is ready for harvest, factors like ear rot and other pathogens can affect the kernel mass.

The guidelines are as follows:

1. Wheat

With wheat a good average seed count is approximately:

Dryland: 3 500 seeds/100 g.

Irrigation: 3 000 seeds/100 g.

Two general practices, sowing and planting, are described separately to determine yields.

1.1 Sowing or planting wheat in very narrow rows

- 1.1.1 Firstly, the number of ears or stalks per square metre (m²) is determined.
- 1.1.2 The average number of seeds per ear is determined by counting the seeds in a sample of wheat ears, including small and big ears in proportion. If the seeds cannot yet be counted, a good average count for the cultivar concerned can be used.
- 1.1.3 The following formula can be used to calculate the yield where wheat was sown:

Dryland:	$\frac{\text{Ears or stalks per m}^2 \times \text{seeds per ear}}{3\,500}$	= t/ha
Irrigation:	$\frac{\text{Ears or stalks per m}^2 \times \text{seeds per ear}}{3\,000}$	= t/ha

1.2 Wheat planted in distinguishable rows

- 1.2.1 Determine the row width as follows: The distance over ten row spaces is measured, in other words from row one to row eleven, and the distance thus obtained is divided by ten to determine the row width.

EXAMPLE

$$\begin{aligned} \text{Distance over ten row spaces} &= 3,5 \text{ m} \\ \text{Row width is } \frac{3,5 \text{ m}}{10} &= 0,35 \text{ m} \end{aligned}$$

Op die voorvoet van saadtegnologie



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Do your own crop estimate

Continued from the back of the Seed tab

- 1.2.2 The number of ears or stalks in the row over a distance of 3 m is counted.
- 1.2.3 The number of seeds per ear is determined by counting a sample of ears, which includes small and large ears in proportion. If the seeds cannot yet be counted, a good average count for the cultivar concerned can be used.
- 1.2.4 The formula below can be used to calculate the yield where wheat has been planted in distinguishable rows.

$$\frac{\text{Ears or stalks per 3 m} \times \text{seeds per ear}}{\text{Row width (m)} \times 3 \times 3\,500} = \text{t/ha}$$

$$\frac{\text{Ears or stalks per 3 m} \times \text{seeds per ear}}{\text{Row width (m)} \times 3 \times 3\,000} = \text{t/ha}$$

2. Maize

- 2.1 A guideline of 0,28 g/kernel can be used for the average kernel mass of maize where the seeds can be counted in order to calculate the potential crop.
- 2.2 When the seeds cannot be counted, 120 g to 180 g per ear, depending on the establishment and occurrence of multiple ears, can be used.
- 2.3 First determine the average number of ears per 10 m. When the plants are in the vegetative stage, factors like the establishment, multiple ears and the sprouting ability of the plants must be taken into account.
- 2.4 Determine the average mass in grams per ear.
- 2.5 The formula below can now be used to calculate the yield.

$$\frac{\text{Number of ears per 10 m}}{1\,000} \times \frac{\text{Grams per ear}}{\text{Row width}} = \text{t/ha}$$

3. Sunflowers

- 3.1 Use the following guidelines to determine the average seed mass per head at a young stage before the seeds on the head can be counted:

ESTABLISHMENT/PLANTS/HA	GRAMS SEED/HEAD
50 000	34
40 000	41
30 000	48
20 000	55
10 000	62

- 3.2 Use the following method to count the seeds per head:
 - 3.2.1 Measure the diameter of the head.
 - 3.2.2 Measure the diameter of the centre seed set if applicable.
 - 3.2.3 Count the number of seeds per 10 cm² and divide this number by 10 to obtain the number of seeds per cm².
 - 3.2.4 Calculate the productive area as follows:

Diameter of head	= 15 cm	
Diameter of centre seed set	= 5 cm	
Total area	= 15 x 15 x 0,79	= 177,75 cm ²
Unproductive area	= 5 x 5 x 0,79	= 19,75 cm ²
Productive area	= 177,75 cm ² - 19,75 cm ²	= 158,00 cm ²

Continued on p. 30

die alles-in-een saadverskaffer

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Do your own crop estimate

Continued from p. 26

- 3.2.5 Multiply the number of seeds per square centimetre (cm²) by the productive area to get the number of seeds per head.
- 3.2.6 Multiply the number of seeds on the head with the average mass per seed to obtain the mass of the head. Use a mass of 0,04 g/seed as guideline.
- 3.3 Count the number of heads per 10 m.
- 3.4 Measure the row width.
- 3.5 Use the following formula to calculate the yield:

$$\frac{\text{Number of heads per 10 m}}{1\ 000} \times \frac{\text{Grams per head}}{\text{Row width}} = \text{t/ha}$$

4. Dry beans and soybeans

Follow the steps below to do a crop estimate for dry beans and soybeans:

- 4.1 Determine the number of plants per 10 m and the average row width.
Plants/10 m ÷ row width x 1 000 = plants/ha
- 4.2 Determine the average number of pods per plant and seeds per pod.
Soybeans: ± 1,8 seeds/pod: Mass: ± 0,16 g/seed
Dry beans: Seeds/pod and mass/seed vary according to cultivar:
Small white canning types: Mass: ± 0,19 g/seed
Red speckled types: Mass: ± 0,47 g/seed
- 4.3 Allocate a mass per plant using the above guidelines, but always keep the following in mind:
 - Evenness of plant establishment and plant height.
 - General appearance and colour of the plants.
 - Moisture conditions (drought or waterlogged).
 - Weed, insect and disease control.
- 4.4 Plant establishment guidelines:

Dry beans:	Large seed types	Small seed types
Eastern areas:	± 120 000	150 000 +
Central areas:	± 100 000	± 140 000 - 150 000
Western areas:	± 80 000 - 100 000	± 120 000 - 140 000
Soybeans:		
Eastern areas:	± 300 000 - 400 000	
Central areas:	± 280 000 - 300 000	
Western areas:	± 280 000 - 300 000	

- 4.5 Now calculate the yield with the following formula:
Plants/10 m ÷ row width x mass/plant (g/plant) ÷ 1 000 = t/ha
- 4.6 Make provision for losses during the harvesting process as follows:
 - Adjust the calculated yield for dry beans by a factor of 80%.
 - Adjust the calculated yield for soybeans by a factor of 85%.
 - Also remember to take the height of the harvester blade into account for soybeans.

5. Grain sorghum

Guidelines for grain sorghum: In the first place you work only on the plant population where plants are still young and there are therefore no ears with kernels that can be used for the yield estimate.

Where only plant establishment can be taken into account, the following guidelines are applicable:

- Bitter varieties require 120 000 plants/ha for an LBY of 4,0 ton/ha. You can also take ± 40 g/plant where plant establishment is 120 000 plants/ha.
- Sweet varieties require 140 000 plants/ha for the same LBY. You can also take ± 30 g/plant where plant establishment is 120 000 plants/ha.
- In difficult seasons you should preferably work conservatively.

Where actual ears and seed count are taken into account, the following guidelines are applicable:

1. Ear count/10 m: $\frac{\text{Ears}/10 \text{ m}/3 \text{ rows}}{3} = \frac{xx}{3} = xx \text{ ears}/10 \text{ m}$

2. Row width: $\frac{\text{Distance measured across rows}}{\text{number of row spaces}} = xx \text{ m} = xx \text{ m}$

3. Weight/plant: Select five representative ears. Select and remove three branches (side ears) from the top, middle and bottom of each ear. Count the number of kernels on each branch and note this down.

EAR NUMBER	1	2	3	4	5		
Top branch							
Middle branch							
Bottom branch						TOTAL	
Total							$\div 15 = xx \text{ kernels}/\text{branch}$

Count the number of branches on the five ears, add the 15 used above, divide by five to get the average number of branches/ear and multiply this by the number of kernels/branch to obtain the number of kernels/ear.

$$\text{Kernels/ear} = \text{branches on 5 ears} + 15 \div 5 \times xx \text{ kernels}/\text{branch} = xx \text{ kernels}/\text{ear}$$

$$\text{Weight/ear (g)} = xx \text{ kernels}/\text{ear} \times 0,019 \text{ g}/\text{kernel} = xx \text{ g}/\text{ear}$$

* Adjust the 0,019 g/kernel according to conditions.

4. Crop yield: $xx \text{ ears}/10 \text{ m} \div \text{row width (m)} \times \text{weight/ear (g/ear)} \div 1 000 = xx \text{ t}/\text{ha}$

$$= xx \text{ ears}/10 \text{ m} \div xx \text{ m} \times xx \text{ g}/\text{ears} \div 1 000 = xx \text{ t}/\text{ha}$$

6. General comments

It is important that the masses above be regarded only as guidelines and that you realise that they can be affected by factors like appearance of the plant, climate, region, cultivar, etc.

Kobie de Beer, manager: Insurance Services (Crop), Santam Agriculture, Bloemfontein



Wenner van verskeie strookproewe afgelope 4 jaar. Is altyd in die boonste rangorde in die ander proewe. Baie bestendige baster in hoë, medium en lae potensiaal areas. Lae plantestand baster. Prys: R1320/60,000 pitte



Dr Tobie Wickens

MIELIEBASTERS

Telers: Dr Tobie Wickens en Dr Gabor Barla-Szabo

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- Kuilvoer (Nie GM): Silmaster, US9630 en US9640
- Groenmielies: US9911
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Read this before buying seed

Seed companies do not guarantee the quality of seed if the seed treatment is not done by the seed company itself, or by a registered chemical supplier that uses equipment and processes that are ISO accredited. The treatment for rhizobia is excluded.

If a chemical supplier handles the treatment, he must be able to ensure that the treatment will not affect the germination. The chemicals used must also be registered in terms of Act No. 36 of 1947 and preferably be recommended by the seed company for the cultivar concerned.

It is therefore recommended that producers who do not purchase treated seed but prefer

to have it treated later, do this in collaboration with the seed company concerned.

Dr Gerhard Verdoorn says the following as well: 'Agrochemicals are sometimes wrongly used for seed treatment to combat the effect of gerbils. This creates the risk of negatively affecting seed germination, and it can also cause environmental damage when seed is spilt during planting and eaten by birds and animals. When gerbils have to be controlled, there are proven management plans that include rodenticides, and producers are therefore advised to follow these management plans.'

Corné Louw, senior economist: Inputs, Grain SA

Address seed quality problems as follows

Undesirable seed quality can affect the success of your crop. If you suspect or experience any seed problems, take the following steps to address this effectively:

- Contact the representative from whom the seed was bought as soon as possible and insist on an investigation on site. Also keep a record of dates and conversations.
- Gather and write down as much information as possible, take photos or make videos to refer back to later.

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

- Contact an independent scientist to do an investigation on site.
- Inform Grain SA if the seed company cannot provide the required attention and solutions for the relevant problems.

If a producer still suspects that there are problems with the seed he planted after the matter was taken up with the representative and the company that provided the seed, he can contact the Department of Agriculture, Forestry and Fisheries. This department will carry out a trade control investigation in terms of the Plant Improvement Act.

Contact persons

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Felicity Daniels: Port Elizabeth, 041 484 2725

Free State regional representative:

Zanele Buhlungu: Bloemfontein,
051 406 0967

Gauteng regional representative:

Christo Botha: Pretoria, 012 319 6139

Western Cape regional representative:

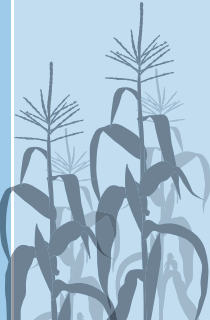
Christo Gouws: Stellenbosch, 021 809 1709

Producers are recommended to keep record of batch code numbers, as reference samples of all seed batches are available for dispute investigations from the relevant registered seed laboratories where quality controls are carried out. When purchasing seed, request the germinating percentage for the seed lot concerned. Producers are advised to retain the actual bag containing all the necessary traceable information for reference purposes.

Corné Louw, senior economist: Inputs, Grain SA

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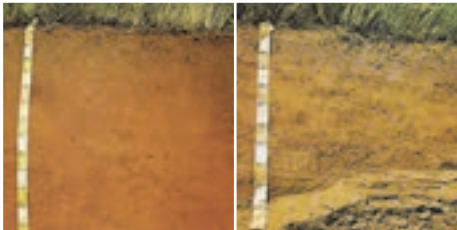
Tillage guidelines for soils in South Africa

The wide variety of soil types found in the crop areas of South Africa makes it difficult to provide standard prescriptions for tillage. This wide variety is attributed particularly to the great variation in soil properties, climate and the accompanying production potential. However, if the soils are grouped according to the specific climate zone and texture classes, a few general tillage guidelines can be provided.

Summer rainfall of between 400 mm and 550 mm per year

1. Red and yellow sandy soils with less than 6% clay in the topsoil

This group is found mainly in the central production areas (Western Free State, North West and Northern Cape) and comprise wind-deposited soils with less than 6% clay in the topsoil, less than 8% clay in the subsoil and an apedal (single-grained) structure. Hutton and Clovelly soils are the main soil types in this class. These soils are extremely vulnerable to wind erosion and subsoil compaction, fertility is low, as is the water retention capacity in the absence of a barrier layer. However, soil types that lack a barrier layer, like the Avalon, Kimberley and Molopo soils, have a higher water retention capacity within the root zone.



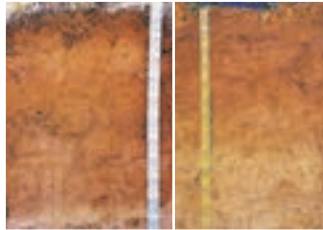
Hutton and Clovelly

In order to combat wind erosion and soil-borne plant diseases and to ensure good root development, mulch tillage combined with a deep ripper action, controlled track traffic and a good crop rotation system are recommended as the most sustainable system in these soils. The depth of the water table can be managed with the aid of a fallow system to the extent that it is kept about 1 200 mm from the soil surface.

In seasons with excessively high rainfall the plant establishment can be increased, and a catch crop can even be used to lower the levels.

2. Red and yellow sandy soils with 6% to 18% clay in the topsoil

These soils mostly have a poorly developed structure in the topsoil and consequently have strong crust-forming properties that lead to poor aeration and infiltration. The most common soils in this group are the Clovelly, Hutton, Bainsvlei, Bloemdal, Avalon, Pinedene and Kimberley soils. These soils are also subject to compaction, and if the clay content of the topsoil is less than 10%, there is also a risk of wind erosion.



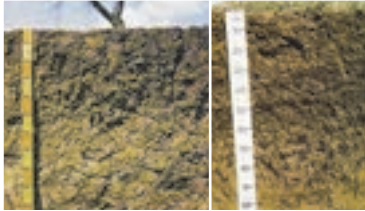
Bainsvlei and Bloemdal

The recommended practices in these soils are conventional clean tillage, combined with a ripper action of approximately 350 mm deep where soil compaction is a problem. As crust formation is the single biggest problem in these soils, regular shallow tillage after rain is required to ensure good infiltration. However, tillage practices like mulch tillage can be applied to this soil, provided primary tining to a depth of 300 mm forms part of the system. In the shallow, stony soils of the winter rainfall areas (Western and Southern Cape) tining at a depth of 150 mm before or during planting should be adequate.

3. Soils with between 18% and 25% clay in the topsoil

Because of the higher clay content of these soils the structural grade is usually moderate or stronger. This group contains a large

variety of soils like the Valsrivier, Sepane, Oakleaf and Tukulu soils, which are regarded as marginal for crop farming due to the lower infiltration ability, higher run-off and high evaporation losses.

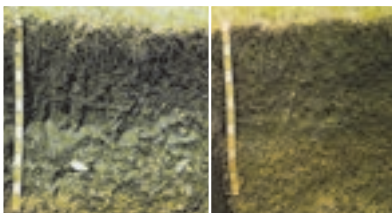


Valsrivier and Sepane

These soils are mainly used to plant sunflower and grain sorghum, and mulch tillage with winged fine implements provides good results. Primary tillage of 200 mm or shallower with a chisel plough is mostly adequate.

4. Soils with more than 25% clay in the topsoil

This group, comprising vertic or melanic soils, mainly has a dark colour and an organic carbon content that varies between 0,5% and 4%, with a well-developed structure in the topsoil. Soil types include (but are not limited to) the Arcadia, Rensburg, Bonheim and Inhoek soil structures.



Arcadia and Rensburg

These soils are quite resistant to wind and water erosion and are excellently suited to no-till practices. However, these soils are regarded as marginal for dryland crop farming in the long term.

Summer rainfall of between 550 mm and 700 mm per year

1. Red and yellow well-drained sandy soils with less than 20% clay in the topsoil

The main soil types in this group include the Hutton, Clovelly and Avalon soils and are suitable for growing most crops. Soil acidification is the biggest problem with these soils and regular liming is essential.

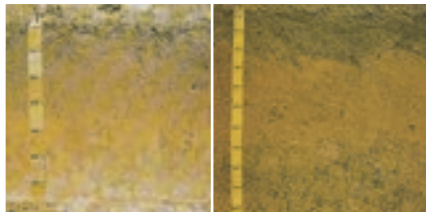


Avalon

Both conventional and mulch tillage practices are recommended for these soils. When mulch tillage is used in sandy soils with less than 10% clay in the topsoil, a deep ripper action combined with controlled track traffic is recommended. Crop rotation is also essential to retain the biological soil quality.

2. Yellow and grey soils with plinthic and gley subsoils

The soils in this group (e.g. the Westleigh, Pinedene, Longlands and Kroonstad soils) are characterised by wet subsoil during periods of high rainfall. In dry years they can deliver good crops, while they tend to become waterlogged during wet periods. The wet soil conditions make it difficult to control weeds, while self-sowing and soil acidification are also a significant problem.



Westleigh and Pinedene

Continued on p. 44

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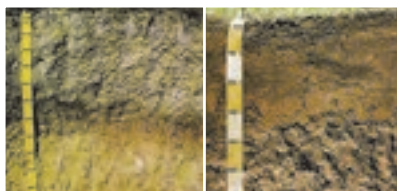
Tillage guidelines for soils in South Africa

Continued from p. 41

Contour tillage along slopes and mulch tillage render good results in these soils. Controlling weeds and self-sowing through shallow tining is usually very ineffective and additional chemical herbicides are recommended.

3. Brown and grey soils with dry clayey subsoils

The main soils in this group are Valsrivier, Swartland, Sterkspruit and Estcourt. These soils are extremely vulnerable to water erosion.



Swartland and Sterkspruit

Strict control of run-off water through contours and mulch tillage is essential to control erosion. However, the long-term production potential of these soils is low and they should generally rather be used for planted pasture or feed production.

4. Dark clayey soils

These dark soils have a well-developed structure and very high inherent fertility. They are characterised particularly by a dense cover of natural grasses in the untilled state. Soil types in this group include Bonheim, Milkwood and Arcadia.

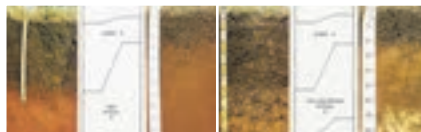


Bonheim and Milkwood

These soils are very suitable for no-till practices, but the best use for this group is probably no tillage at all.

Summer rainfall of more than 700 mm per year

According to the aridity index classification and international standards this climate zone is the only one in South Africa that is suitable for dryland crop production. However, the biggest part of this climate zone is mountainous and is used for forestry. Inanda, Hutton, Magwa, Clovelly and Avalon are examples of soils in these areas.



Inanda and Magwa

Where these soils are used for crop production, mulch or no-till practices are very successful. However, regular liming is necessary to maintain high yield levels. The biological quality of the soils is maintained through crop rotation.

References

1. MVSA Bemestingshandleiding (2007), Hoofstuk 1.10: Grondbewerking en bewerkingsriglyne.
2. Die herstel van volhoubare graanproduksie – Volume VI: Die produksie-omgewing (GSA, 4 Junie 2001). Hoofstuk 2: Grondbenutting vir droëland kontantgewasproduksie. (Compiled by Prof ATP Bennie, UV, Bloemfontein.)

Dr Louis Ehlers, manager: Agricultural Services: Omnia Fertiliser – a division of the Omnia Group (Pty) Ltd

DRAGO

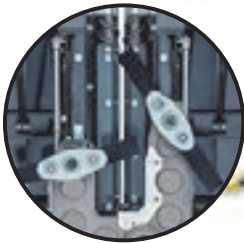


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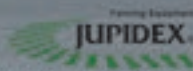
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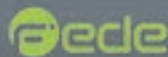
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Convert from conventional farming to **PRECISION FARMING**

Precision farming involves the area-specific adaptation of production techniques on the basis of geographical data on the chemical, physical and morphological soil properties, but also other geographical production data like yield data and growth indices gathered through remote sensing. The ultimate aim is to run the farm in a sustainable manner. But where do you start?

Conversion to precision farming does not necessarily have a specific starting point and course, but all the methods have the gathering of geographically linked data that affects production in common. The availability and cost of geographical data and equipment on implements usually play a significant role at the start of the conversion.

Yield data

Yield data is gathered by yield monitors in combine harvesters. As the combine harvester drives across the field and harvests, the yield is continuously determined and captured at global positioning system (GPS) points. After the data has been processed, yield maps of the fields are generated and the areas where the crop yield was higher and lower are clearly indicated. The lower yield areas are then investigated to determine the possible causes of the reduced yield. Production practices are then adjusted to eliminate the yield-reducing factors in these areas so that the whole field can yield according to its potential.

If the combine harvester is equipped with a yield monitor, it can be employed for precision farming and this is a meaningful starting point. However, the data must be processed to meaningful interpretable yield maps.

Growth indices

Remote sensing with the aid of satellite images, images from manned aeroplanes and unmanned aeroplanes (drones) are increasingly used to obtain digital images of fields.

Images are usually taken in serial format during the growing season. These are then processed electronically to produce, among other things, growth indices (NDVI) throughout the growing season. Areas with differences in the relative crop growth are indicated in different colours in this specific application, so that areas where the crop growth is lower can be identified. The lower-yielding areas can be visited with the aid of a GPS and studied to identify the possible causes of poorer crop growth during the season. Growth indices are a relatively affordable but also easy starting point because the data is processed by the supplier of the service to a final product.

Chemical soil properties

The geographical spread of chemical soil properties is done by way of grid sampling. Soil samples are taken at GPS points identified in a grid pattern on the field. The soil sample for each GPS point is packaged separately and analysed by a laboratory. The raw data is linked to the GPS points by the service provider to generate maps of the geographical spread of the plant nutrients available in the soil. Imbalances are then corrected differentially across the field according to the need of each square in the field (usually 20 m x 20 m).

This is a very popular starting point for precision farming, probably because the service is freely available from various service providers and is well marketed. It also provides a rapid return on the investment because it directly addresses plant nutrition, which strongly correlates to crop performance.

Pedological and physical soil properties

Pedology involves the study of soil types. The morphology of soil types differs over short distances in fields and these differences affect vegetation and crop performance directly. Examples of these are water retention capacity, drainage, the incidence of shallow water tables, leaching of plant nutrients, natural

Continued on p. 50

Convert from conventional farming to **PRECISION FARMING**

Continued from p. 49

fertility, texture, structure, compactability, stoniness and tillability. During soil surveys the relevant soil properties are identified and recorded by a soil scientist with the aid of soil drills at GPS points. Soil maps are then generated, indicating the soil types as soil bodies on the farm. These soil properties are interpreted by the soil scientist to indicate areas with different potentials and applications in the fields. These maps are then processed further to user maps that can be loaded on the tractor's precision screen to adjust the application of seed and plant nutrients to the capacity of the field.

This is a quite complicated facet of precision farming that requires advanced and relatively expensive equipment on the tractor and implement. Some producers do start their foray into precision farming with this technology.

Precision soil cultivation

Soil compaction and water infiltration are two major aspects of successful grain production. Controlled track traffic and the effective management of soil cultivation systems with the aid of GPS technology and automatic steering systems unlock possibilities for effectively managing soil compaction. The degree and depth of soil compaction is measured with a penetrometer. This data enables you to determine the required depth of soil cultivation exactly. The method of breaking up soil compaction must be adjusted to the entire production system so that the crop is always established in soil that is sufficiently loose within the norms. The ideal is also for the soil not to be compacted again where you intend planting in future. Track traffic can be successfully controlled over a number of years with the aid of GPS technology and automatic steering systems. In this system the entire field is properly loosened,

but preferably not the tractor tracks. All the implements that will be required in the course of the season are adapted to follow these tracks and work only as widely as the planter, or multiples thereof.

The most important benefits of this system are that aggressively deep tillage is eliminated or drastically reduced, the crop always grows in uncompacted soil, water infiltration is promoted, there is a possibility of enriching the zones regularly planted with plant nutrients, and the costs of mechanisation can be significantly reduced. This is also the ideal system for combining with minimum tillage and no-till. Most new tractors of more than 120 kW have GPS technology as standard issue, which paves the way for driving precisely, cultivating precisely and planting in the right place. Farming systems should be adapted to utilise this technology for optimum production and it is a logical point of departure when a new tractor is purchased.

Other techniques

Technology is also available to make more accurate fertilisation possible. Advanced sensors on implements using measurements of the chlorophyll activity in the crop are used for this purpose.

Weed sprays can also be equipped with sensors to identify weed plants in order to spray only where the weed is present. If pests occur only in certain areas of a field, those areas can sometimes be identified by way of remote sensing, or by physically scouting the field and capturing the area with the aid of a GPS.

Martiens du Plessis, soil scientist, NWK Limited

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Conservation agriculture essential for sustainable crop production

Grain SA wants to take the lead in promoting more sustainable crop production. The organisation believes that conservation agriculture as a sustainable crop production system that can prevent the systematic deterioration of soil quality is the way to go about it.

However, conservation agriculture also has various other benefits, with the most important probably being cheaper and more profitable crop production. In order to exploit all the benefits of conservation agriculture, a producer must apply the following three principles simultaneously and with quality: minimum soil disturbance, permanent organic ground cover, and crop diversification.

A new programme was developed in 2013 that Grain SA would like to use to achieve this vision. Grain SA, with the financial support of the Maize and Winter Cereal Trusts, aims to create an environment with this programme that will make it easy, convenient and attractive for a producer to switch to conservation agriculture. Grain SA's Conservation Agriculture Farmer Innovation Programme strives to support innovative ideas and projects that fit in with this philosophy and principles.

The first objective is to develop a sound knowledge of and relationship with key role-players, particularly producers, in conservation agriculture. For this reason Grain SA has established a conservation agriculture working group that consists mainly of conservation agriculture producers representing all grain production regions. The group has identified specific responsibilities for the working group, among which the prioritisation of study areas and themes to be investigated is the most important. At a higher level there is good cooperation with government departments and other stakeholders to address national issues, such as the development of a policy for conservation agriculture and the integration of conservation agriculture with the national Land-Care programme.

Over the past two years a number of strategic objectives have been implemented, and have already had a large impact on the promotion of conservation agriculture. The first of these was to obtain a good description of and publication on successful conservation agriculture practices in different regions, providing very valuable guidelines for existing and prospective conservation agriculture producers. The raising of general awareness through farmers days and congresses was further seen as a priority, and several successful events took place. The most important of these was probably the Ottosdal Conservation Agriculture Congress that was held in March 2014 and March 2015, and that has become an important event for the dryer western areas.

However, the most important objective of the new programme is to conduct on-farm research in which producers participate actively, which is an excellent tool to cultivate awareness, knowledge and skills in conservation agriculture among producers and other role-players. A few projects of this nature are already in full swing, for example in collaboration with the Ottosdal No-Till Club (among commercial farmers), and with the active small-farmer groups in the Bergville and Matatiele districts in KwaZulu-Natal and the Eastern Cape respectively. Thus far it has been an extremely successful strategy to approach these projects in collaboration with active and well-organised farmer groups. The aim is to identify more such groups (and projects) to promote and accelerate the entire process associated with conservation agriculture. For this reason a new project was launched in the North-East Free State in collaboration with the Riemland (Reitz) and Ascent (Vrede) study groups to promote conservation agriculture in the region. A variety of farm trials were implemented from October 2015 in collaboration with the ARC, VKB and other role-players to reinforce and disseminate the knowledge on conservation agriculture in the region.

Dr Hendrik Smith, conservation agriculture facilitator: Grain SA

PRECISION FARMING SUPPLIERS IN SA

It is not always that easy to reach the right person quickly when you work with big companies. Below is a list of the contact details of the main suppliers in order to make the search for precision farming systems and services a little easier.

Company	Contact person	Number	Email
John Deere	Vikar Sheopershad	071 461 3996	SheopershadVikar@JohnDeere.com
New Holland SA	Rudi du Toit	073 081 8279	RudiD@northmec.co.za
Northmec	Rudi du Toit	073 081 8279	RudiD@northmec.co.za
Raven	Jaco Stemmet	082 771 7541	jaco@agrisolutions.co.za
Ronin Precision Farming Systems (Trimble and DICKY-John)	Jaco Viviers	071 763 1797	jaco@roninpfs.com
Sitech Southern Africa	Hanno Truter	082 319 2301	htruter@clmps.com of hannotruter@sitech.co.za
Topcon	Christo Helm	083 233 5497	chelm@topcon.com

Jim Rankin, Agfacts

Record your diesel consumption

The Customs and Excise Act (No. 91 of 1964) requires among other things that a logbook of diesel consumption must be kept.

It is critical for producers to keep a strict record of their diesel consumption. Agri SA and Grain SA commented on what a logbook should look like, but have received no further information in this regard from SARS yet. In the meantime producers are recommended to record the minimum information currently required by law in a logbook that is available from major distribution points. The logbook should contain the following information:

- Date on which the diesel was added.
- Quantity of diesel added.
- Description of the vehicle.
- Timer or km reading before and after use.
- Reason for which diesel was consumed. (It is important to check which activities qualify for the diesel rebate.) Click on the link below and page down to part 3. (It is in Schedule 6, part 3.)

IMPORTANT: Grain SA appeals to its members and other grain producers to handle the rebate that agricultural producers receive on diesel according to the prescribed rules. If large-scale irregularities arise, agriculture might lose this diesel rebate.

Corné Louw, senior economist: Inputs, Grain SA





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 Delmas – AFGRI

Jan Marais 071 420 5764
 Middelburg - AFGRI

Willem Roets 082 460 3833
 Bethlehem – AFGRI

Rae Gerwel 082 457 2280
 Upington – Agrico

Rae Gerwel 082 457 2280
 Kimberley – GWK

Riaan Smith 079 889 4236
 Bloemfontein – Senwes

Christien Bekker 079 494 6460
 Rustenburg – Senwes

Annalize Naude 082 459 3702
 Newcastle – Mascor

Eddie Schuler 082 461 4837
 Pietermaritzburg – Mascor

Kuben Govender 071 442 5343
 Durban – Mascor

Mbusi Cebekhulu 071 677 1560
 Richards Bay – Mascor

Jan Marais 071 420 5764
 Malelane / Komatipoort - Mascor

Eben Terblanche 082 308 2344
 Nelspruit - Agrico

Port Elizabeth (Eastern Cape) –
 JD Implemente

Wesley Stevens 082 339 3100
 Aliwal Noord / East London - Agrico

Neels Vermeulen 082 453 5520
 George – Trekker & Diesel, Agrico

Nelia Grobbelaar 082 300 5399
 Worcester (Western Cape) –

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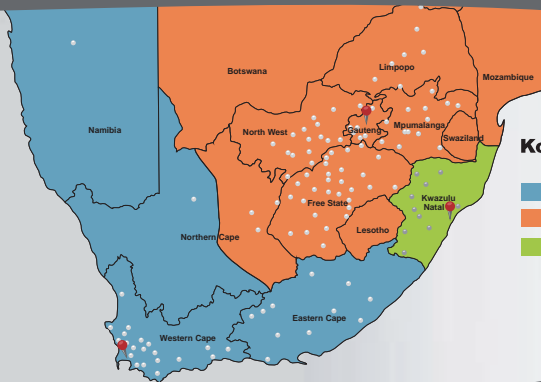
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Diesel quality – do you suspect that paraffin has been added?

If producers suspect that there are problems with the quality of diesel, particularly in cases of possible paraffin contamination, they can contact the South African Revenue Services (SARS) to monitor this:

Contact

Gregory Marks
National Group Manager
021 413 8938
gmarks@sars.gov.za

Tim La Fontaine
Operational Specialist: Excise
012 422 6919
tlafontaine@sars.gov.za

If producers want to test diesel themselves, they can visit the website www.dieseltesting.co.za, or call 087 575 3568 to purchase the testing instruments.

Corné Louw, senior economist: Inputs, Grain SA

Tractor operator training essential

Training is a must for grain producers' tractor operators. This training includes not only the driving of the tractor, but also its practical use and general maintenance.

With a view to this, the Grain Guide has decided to approach companies providing such training. Below are the companies that responded to our enquiries:

Dicla Training Centre	Patrick Verster	071 692 2229	training@dicla.com
Northmec	Arno du Plessis	071 687 5227	arno@northmec.co.za
New Holland	Steve Kite	056 515 1865	stevek@cse.co.za
Barloworld	William Tsheisi	083 627 7257	wtsheisi@barloworld-equipment.com
John Deere	Janalize Barnard	011 437 2666	barnardelizabeth@johndeere.com

Poor after-sales service by mechanisation dealer or technology supplier?

If members of Grain SA receive poor after-sales service from mechanisation dealers, they can contact Corné Louw, senior economist: Inputs, Grain SA, or Grain SA at 086 004 7246.

Corné Louw, senior economist: Inputs, Grain SA

IRRIGATION

– steps to consider

To ensure that irrigation succeeds, there are certain basic things that must be in place and that you should know before you can start thinking about irrigation:

- 1** In the first place here must be a **reliable and sustainable water source** in the vicinity. For information on rivers, contact the Department of Water Affairs.
- 2** If the above is in place, the further condition is that the **water must be suitable for irrigation**. This means that there should not be too many salts or other harmful elements in the water. This can be a problem with borehole water in many cases. In dams and rivers there can be biological problems with the water. In order to determine whether the water is suitable, have it tested at a water analysis laboratory.
- 3** The third requirement is that you should have **soil that is suitable for irrigation**. The important thing here is that it should be a medium to heavy soil. Pure sand has very little water retention capacity and is not suitable for irrigation. The soil should have enough depth and there should be no limiting layer too close to the surface. The soil should be chemically suitable for cropping, and there are also further requirements for irrigation. To make sure of these, a number of profile holes should be dug up to a depth of 1 m, soil samples at a few different depths should be taken from the holes and tested by a soil analysis laboratory.
- 4** A further requirement with respect to the soil is the **topography of the field**. Fields that are too steep cannot be tilled safely with implements, and this creates pressure problems with respect to irrigation, in addition to erosion hazards.
- 5** Although **climate** does not place as great a restriction on irrigation as do the crops that can be planted, it is a factor to be taken into account. In this case it would particularly affect the type of irrigation system that can be used. For example, it is not ideal to use a sprinkler system where there are constant strong winds or very high temperatures. Drip irrigation would be preferable in such areas.
- 6** **Availability of energy** is a major requirement. In view of the high cost of fuel, it is not economic to use engines to pump water, and electricity in the area is essential, whether supplied by Eskom or by turbines in a river, or water under pressure from higher-lying dams, which is ideal.
- 7** Only when all the above factors are in place can you start thinking about an **irrigation system**. The main factor that determines the type of system to be used is the type of crop that you want to irrigate. The availability of a supplier that is located not too far away is also important, particularly with respect to after-sales service for the irrigation system that is going to be purchased.
- 8** Even more important than the type of system is the 'type' of **installer of the system**. You can have all the right things in place and have everything of the best, but if the installation is not carried out correctly, you will have a system that will give you infinite problems in the future.
- 9** The **system must be managed** correctly in all respects. Irrigation systems are expensive, and if you do not get the maximum efficiency from your system, you will struggle to pay for it.
- 10** Irrigation has become science, and you should therefore use all the **irrigation and scheduling aids** that are available. Automatic weather stations are no longer a luxury, but are essential, as the irrigation information researchers make available these days is based on weather data.

AS van Niekerk, Pr Eng., ARC-Institute for Agricultural Engineering



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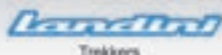
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Robertson	Vitach Diesel	023 626 6799
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Oos-Londen	McCormick Agri	043 737 4122
Humansdorp	Agrifriend Machinery	042 291 1336
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Lydenburg	Lydenburg Landini	013 235 3324
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Pietermaritzburg	Agriserve	033 388 8455
Pongola	Tri Pot Truck and Trailer	034 413 2341
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Umhlati	Peters Tractors and Accessories	032 947 1816
Mthatha	Monzi Tractors	035 550 4850

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Guidelines for insuring your tractor and harvester tyres

The following are a few things producers should keep in mind when insuring tractor and harvester tyres:

Most tyre manufacturers guarantee their product for five years against any manufacturing defect that develops or can develop from the manufacturing date (as shown on the tyres) or until the tyre is worn down, whichever comes first. When a tyre cannot function because of a manufacturing error, the wear and tear of the tread is measured and the claimant is compensated for the part that has not been used.

A producer can insure the tyres of agricultural implements against damage or loss arising from the farming operations. (Manufacturing defects excluded, except if the policy specifically states this.)

Implements can also be insured against damage or loss caused by an accident or fire. In such cases the tyres are viewed as part of the implement if the insurance policy provides for this.

Jean-Maré Theron, sales consultant: Tubestone

Drivers licences for different vehicles

Different licences are issued for the various categories of motor vehicles:

- **Code A1:** This is for a motor cycle with or without a sidecar and with an engine not exceeding 125 cc. You must be at least 17 years old on the date of the test.
- **Code A:** This is for a motor cycle with or without a sidecar and with an engine that exceeds 125 cc. You must be 18 years or older to apply.
- **Code B:** This is for a motor vehicle, including a minibus, bus and goods vehicle, with a gross vehicle mass not exceeding 3 500 kg. You must be 18 years or older to apply.
- **Code C1:** This is for a motor vehicle, a bus, minibus or goods vehicle with a gross vehicle mass between 3 500 kg and 16 000 kg. You must be 18 years or older to apply.
- **Code C:** This is for a motor vehicle, a bus or a goods vehicle with a gross vehicle mass exceeding 16 000 kg.
- **Code EB:** This is for a:
 - Light motor vehicle that is articulated (light motor vehicle drawing a trailer) with a gross combination mass not exceeding 3 500 kg. You must be 18 years or older to apply.
 - Combination of a motor vehicle with a tare not exceeding 3 500 kg and a minibus, bus or goods vehicle with a gross vehicle mass not exceeding 3 500 kg. You must be 18 years or older to apply.
- **Code EC1:** This is for:
 - An articulated heavy motor vehicle (heavy motor vehicle drawing a trailer[s]) with a gross combination mass between 3 500 kg and 16 000 kg. You must be 18 years or older to apply.
 - A combination of a motor vehicle with a tare between 3 500 kg and 16 500 kg and a minibus, midibus, bus or goods vehicle with a gross vehicle mass between 3 500 kg and 16 000 kg. You must be 18 years or older to apply.
- **Code EC:** This is for an articulated heavy motor vehicle (heavy motor vehicle drawing a trailer[s]) with a gross combination mass exceeding 16 000 kg or a combination of a bus or goods vehicle with a gross vehicle mass exceeding 16 000 kg. You must be 18 years or older to apply.

Source: www.gov.za/services/driving-licence/driving-licence



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Zinchem	73
Organico	77
Bagtech	78



Agricultural lime and gypsum sources in South Africa

Calcite: Agricultural lime sources in South Africa

CALCITE SOURCES

Location	Name	Company	Contact number
Central			
Barkley West	Ulco	SA Lime & Gypsum	086 010 3515
Barkley West	Ulco	H Pistorius	012 342 1075
Barkley West	Ulco	Kalkor	011 721 3141
Buhrmansdrif	Prolime	SA Lime & Gypsum	086 010 3515
Buhrmansdrif	Prolime Precision Lime	SA Lime & Gypsum	086 010 3515
Buhrmansdrif	Buhrmansdrif	Grasland Ondernemings	018 464 7820
Christiana	Britten	Grasland Ondernemings	018 464 7820
Daniëlskuil	Daniëlskuil	Kalkor	011 721 3141
Daniëlskuil	Daniëlskuil	PBD Boeredienste	016 366 1004/5
Glaudina	Glaudina	H Pistorius	012 342 1075
Glaudina	Glaudina	PBD Boeredienste	016 366 1004/5
Immerpan	Inca	SA Lime & Gypsum	086 010 3515
Immerpan	Inca	Kalkor	011 721 3141
Immerpan	Inca	PBD Boeredienste	016 366 1004/5
Immerpan	Inca	H Pistorius	012 342 1075
Lichtenburg	Marico Dolomite	Grasland Ondernemings	018 464 7820
Northam	Northam	SA Lime & Gypsum	086 010 3515
Northam	Agri-Lime	Kalkor	011 721 3141
Olifantsfontein	Olifantsfontein Calcite	SA Lime & Gypsum	086 010 3515
Port Shepstone	Idwala Kulu CAG	SA Lime & Gypsum	086 010 3515
Vereeniging	Panfontein	SA Lime & Gypsum	086 010 3515
Witbank	Hiqua	H Pistorius	012 342 1075
Witbank	Hiqua	PBD Boeredienste	016 366 1004/5
Sasolburg	Wolwehoek Precision Lime	SA Lime & Gypsum	086 010 3515

Location	Name	Company	Contact number
Cape			
Albertinia	Resiesbaan	SA Lime & Gypsum	086 010 3515
Albertinia	Resiesbaan	Nitrophoska	028 713 1508
Bredasdorp	Aghydrate	SA Lime & Gypsum	086 010 3515
Bredasdorp	Bredasdorp	SA Lime & Gypsum	086 010 3515
Bredasdorp	Bredasdorp	P&B Kalkwerke	028 424 1157
Bredasdorp	Karsrivier	Nitrophoska	028 713 1508
Moorreesburg	Titan Lime	SA Lime & Gypsum	086 010 3515
Saldanha	Saldanha	VDM	022 714 4212
Vredendal	Vredendal	SA Lime & Gypsum	086 010 3515
Vredendal	Vredendal	Cape Lime	023 626 3190

Dolomite: Agricultural lime sources in South Africa

DOLOMITE

Location	Name	Company	Contact number
Central			
Christiana	Britten	Grasland Ondernemings	018 464 7820
Clayville	Dolomite and Soil improver	H Pistorius	012 342 1075
Immerpan	Leo Dolomite	Kalkor	011 721 3141
Immerpan	Leo Dolomite	H Pistorius	012 342 1075
Immerpan	Leo Dolomite	PBD Boeredienste	016 366 1004/5
Lichtenburg	Marico Dolomite	Grasland Ondernemings	018 464 7820
Marble Hall	Dolomite	SA Lime & Gypsum	086 010 3515
Marble Hall	Dolomite	Limecor	079 107 5463
Meyerton	Meyerton	SA Lime & Gypsum	086 010 3515
Meyerton	Meyerton	PBD Boeredienste	016 366 1004/5
Meyerton	Meyerton	Limecor	079 107 5463
Middelburg	Calmasil	PBD Boeredienste	016 366 1004/5
Middelburg	Calmasil	SA Lime & Gypsum	086 010 3515
Newcastle	iNogo	H Pistorius	012 342 1075
Newcastle	iNogo	Kalkor	011 721 3141
Newcastle	iNogo	PBD Boeredienste	016 366 1004/5
Olifantsfontein	Olifantsfontein Dolomite	SA Lime & Gypsum	086 010 3515
Olifantsfontein	Olifantsfontein Dolotop	SA Lime & Gypsum	086 010 3515
Port Shepstone	Idwala Kulu DAG	SA Lime & Gypsum	086 010 3515
Pretoria	Mooiplaas	SA Lime & Gypsum	086 010 3515
Pretoria	Mooiplaas	Kalkor	011 721 3141
Pretoria	Mooiplaas	H Pistorius	012 342 1075
Pretoria	Mooiplaas	PBD Boeredienste	016 366 1004/5
Springs	Atholl	Limecor	079 107 5463
Springs	Atholl	PBD Boeredienste	016 366 1004/5
Zeerust	Ottoshoop Dolomite	SA Lime & Gypsum	086 010 3515
Zeerust	Ottoshoop Dolotop	SA Lime & Gypsum	086 010 3515
Zeerust	Marico	Grasland Ondernemings	018 464 7820

Location	Name	Company	Contact number
Cape			
Moorreesburg	Bridgetown	SA Lime & Gypsum	086 010 3515
Robertson	Langvlei	SA Lime & Gypsum	086 010 3515
Robertson	Langvlei	Cape Lime	023 626 3190
Vredendal	Vredendal	SA Lime & Gypsum	086 010 3515
Vredendal	Vredendal	Cape Lime	023 626 3190

Continued on p. 68

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www.sagk.co.za

Agricultural lime and gypsum sources in South Africa

Continued from p. 65

Gypsum and magnesium sources in South Africa

GYPSUM

Location	Name	Company	Contact number
Gypsum			
Midrand	Chloorkop	SA Lime & Gypsum	086 010 3515
Midrand	Chloorkop	H Pistorius	012 342 1075
Midrand	Chloorkop	Kalkor	011 721 3141
Midrand	Chloorkop	PBD Boeredienste	016 366 1004/5
Phalaborwa	Phalaborwa	SA Lime & Gypsum	086 010 3515
Phalaborwa	Phalaborwa	PBD Boeredienste	016 366 1004/5
Potchefstroom	Potchefstroom Sifted and Unsifted	SA Lime & Gypsum	086 010 3515
Olifantsfontein	Chloorkop	SA Lime & Gypsum	086 010 3515
Middelburg	Middelburg	SA Lime & Gypsum	086 010 3515
Rustenburg	Phokeng	SA Lime & Gypsum	086 010 3515
Rustenburg	Phokeng	PBD Boeredienste	016 366 1004/5
Rustenburg	Phokeng	Kalkor	011 721 3414

Location	Name	Company	Contact number
Cape			
Ceres	Kolkiesrivier	SA Lime & Gypsum	086 010 3515
Vanrhynsdorp	Vanrhynsdorp	SA Lime & Gypsum	086 010 3515
Yzerfontein	Yzerfontein	SA Lime & Gypsum	086 010 3515
Moorreesburg	Titan Gips	SA Lime & Gypsum	086 010 3515

MAGNESIUM

Location	Name	Company	Contact number
Central			
Malelane	Magnesite-gromag	SA Lime & Gypsum	086 010 3515
Malelane	Magnesite	Kalkor	011 721 3141
Malelane	Magnesite	H Pistorius	012 342 1075
Olifantsfontein	Magnesium oxide	SA Lime & Gypsum	086 010 3515

FEED LIME

Location	Name	Company	Contact number
Buhrmansdrif	Prolime Feedlime	SA Lime & Gypsum	086 010 3515
Buhrmansdrif	Prolime Grit 2 - 4 mm	SA Lime & Gypsum	086 010 3515
Bredasdorp	Feed Lime	P&B Kalkwerke	028 424 1157
Northam	VKF	Agrilime	014 536 9900
Northam	Grit	Agrilime	014 536 9900
Northam	AL 0 - 1 000	Agrilime	014 536 9900



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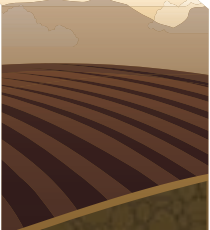

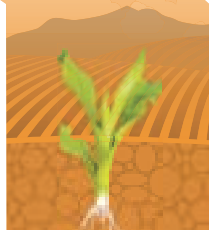

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How to calibrate your planter

Successful cropping has developed into a highly specialised process. Planters play an extremely important role in the process – particularly with respect to the accurate spacing of plants and the plant depth of seed. The accurate dispensing of fertiliser is also important.

The function of a planter

A planter has the following basic functions:

- It opens the fertiliser furrow up to the correct depth for fertiliser placement.
- Correct measuring of calibrated fertiliser and placement.
- It opens the seed furrow up to the correct depth for seed placement.
- Correct measuring and placement of seed.
- Closing of seed and fertiliser furrows.
- Compaction of the soil for effective soil to seed contact.

The above functions must all take place simultaneously and their effectiveness should not be speed sensitive.

Seed dispensing

The primary function of planters is to dispense seed correctly. Seed can be dispensed in the following ways:

- Conventional horizontal tray dispenser.
- Tray dispenser dispensing at an angle.
- The finger-wheel dispenser.
- The vacuum tray dispenser.

Tray dispensers are still used, but because seed grading is no longer that accurate, vacuum dispensers and finger-wheel dispensers are used increasingly.

Dispensing and placement of fertiliser

Fertiliser is dispensed as granules or in liquid form. Granular fertiliser is dispensed positively with a star-wheel or worm dispenser.

Liquid fertiliser is dispensed with a squeeze pump, or – these days – with a special liquid fertiliser pump.

Calibration of the planter

When a planter is calibrated, wheel slippage of the planter drive wheels is an important component to take into account. It is important to calibrate the planter in the field to be planted to compensate for wheel slippage. Different soils will cause different wheel slip percentages.

Calibration of fertiliser

Fertiliser dispensing can be calibrated as follows:

- Mark out a distance of 10 m in the field.
- Catch the fertiliser from one of the fertiliser delivery tubes in a suitable container across the 10 m distance, while the planter moves at a normal working speed.
- Weigh the fertiliser caught in the container.
- The fertiliser delivery in kg/ha can be calculated as follows:

$$\frac{\text{Mass of fertiliser delivered over 10 m in grams}}{\text{Planter's row spacing in metres}}$$

- Repeat the process with the other planter rows to ensure that the delivery is the same.
- If the delivery has to be changed, the gear combinations between the drive wheels of the fertiliser mechanism should preferably be changed rather than increasing or decreasing the delivery.

Calibration of seed

Seed dispensing can be calibrated as follows:

- Mark out a distance of 10 m in the field.
- Set the plant depth so that the seed is placed on the soil.
- Count the number of seeds delivered in a row over the distance of 10 m.

Continued on p. 72

Do not wait to report poor fertiliser quality

If you suspect or experience problems with fertiliser quality, follow the steps below:

- Contact the fertiliser representative from whom you bought the fertiliser and insist on an investigation on site. Also keep a record of the dates and conversations.
- Gather and write down as much information as possible, take photos or make videos to refer back to later.
- Try to retain as many sealed bags as possible in case samples have to be taken at a later stage.

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

- Contact an independent scientist to do an investigation on site.
- Inform Grain SA if the fertiliser company cannot provide the required attention and solutions for the relevant problems.

It is extremely important for fertiliser samples to be taken correctly. Fertiliser samples for testing fertiliser quality can be taken by the ARC-GCI in collaboration with the fertiliser company. Producers can contact Grain SA, FERTASA or the ARC-GCI directly in this regard to take and analyse samples for quality testing.

The samples must be taken in accordance with the prescriptions on pages 62 to 67 of the Regulations to Act No. 36 of 1947. The Regulations are available on the FERTASA website: <http://www.fertasa.co.za/Regulations/31-65.pdf>.

If a producer still suspects that there are problems with the fertiliser he purchased after the matter was taken up with the fertiliser company, he can contact Grain SA or lodge a complaint directly with the Registrar of Act No. 36 of 1947.

Corné Louw, senior economist: Inputs, Grain SA

How to calibrate your planter

Continued from p. 71

- Calculate the plant population in number of seeds/ha as follows:

$$\frac{1\ 000 \times \text{number of seeds counted over } 10 \text{ m}}{\text{Planter's row spacing in metres}}$$

- If the plant population must be changed, change the gear combinations as indicated on the calibration table of the planter.

- If there are many double seed deliveries or seed is not delivered at all, make sure that the right tray has been selected for the seed size for tray planters. The correct vacuum delivery for vacuum planters should be checked. Finger-wheel planter dispensing mechanisms should be serviced.

Johan van Biljon: SAII



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Analysis laboratories in South Africa

Laboratory	Contact number	Discipline
Absolute Science (Pty) Ltd Waltloo, Pretoria	012 803 0331	Fertiliser and water
Acacia Operations Services (Laboratory), Umbogintwini	031 949 2082/9	Fertiliser
Agri Enviro Lab, Bethal	017 647 1150/1	Fertiliser
Agrilab, Tzaneen	015 307 6790	Soil and plants
ALS Analysis and Inspection-Durban (Pty) Ltd	031 301 1257	Fertiliser
ALS Inspection South Africa (Pty) Ltd, Richards Bay	035 797 9415	Fertiliser
ARC-Institute for Industrial Crops (ARC-IIC), Rustenburg	012 427 9999	Soil and plants
ARC-Institute for Soil, Climate & Water (ISCW), Pretoria	012 310 2500	Soil, plants, fertiliser and water
ARC-Institute for Tropical & Subtropical Crops, Nelspruit	013 753 7067	Soil, plants and fertiliser
ARC-Small Grain Institute, Bethlehem	058 307 3501	Soil
Bemlab (Pty) Ltd, Strand	021 853 1490	Soil, plants and fertiliser
Bosveld Phosphate Laboratory, Phalaborwa	015 780 6142	Fertiliser and water
DARD: Soil Analytical Services, Pietermaritzburg	033 355 9456	Plants, soil and water
Department of Agronomy Soil Science Lab, Alice	040 602 2139	Soil, plants, fertiliser and water
Department of Plant Production & Soil Sciences, Pretoria	012 420 3213/ 012 420 3216	Plants, water and soil
Directorate Research Support Services: Soil, plant and water laboratory, Elsenburg	021 808 5296	Soil, plants and water
Döhne Analytical Services, Stutterheim	043 683 1240	Soil and plants
DCELS, Dolphin Coast, Kwadukuza	087 353 9754	Soil
Eco Analytica, Potchefstroom	018 293 3900	Soil and water
Fortcox College of Agriculture and Forestry, King William's Town	040 653 8035	Soil
Glen Soil Analysis Lab, Glen	051 861 8647	Soil
Grond- en omgewingslaboratorium, Potchefstroom (GEOLAB)	083 379 6540	Soil
Institute for Commercial Forestry, Scottsville	033 386 2314	Soil
Intertek Agricultural Laboratory, Bapsfontein	011 964 1004	Soil, plants, fertiliser and water



Laboratory	Contact number	Discipline
Intertek Environmental, Durban	031 552 8149	Water
KL Analytical Services T/A Labserve, Nelspruit	013 752 4745	Plants
Madzivhandila College of Agriculture, Thohoyandou	015 962 7200/11	Soil
Modderfontein Laboratory Services (Pty) Ltd, Modderfontein	011 457 1801	Water and fertiliser
NviroTek Laboratories, Hartbeespoortdam	012 252 7588/ 082 889 0139	Soil, plants, fertiliser and water
SA Sugar Research Institute (SASRI), Mount Edgecombe	031 508 7436	Plants, soil and fertiliser
SA National Parks, Skukuza	013 735 4458	Soil, plants and water
SGS Agricultural Services, Somerset West	021 852 7899	Soil, plants, fertiliser and water
Timpi Seleka College Soil and Water Analytical Laboratory, Marble Hall	013 264 5300	Soil
UP NUTRILAB, University of Pretoria	012 420 3269	Plants
University of Venda	015 962 8431	Soil
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The above is a list of the laboratories that are members of AgriLASA. These laboratories participate in an inter-laboratory control scheme for each discipline to which they belong. The latter schemes are coordinated by AgriLASA. The schemes are the best way for laboratories to verify their results. Each laboratory's achievements can be requested from the laboratory by producers or institutions who want to do business with the laboratory.

Dailena Pienaar, President: AgriLASA

Macro nutrient element deficiencies in maize

Nitrogen (N)

- Deficiencies in young plants are usually accompanied by a pale, light yellow-green appearance.
- In older plants, a characteristic yellowed reverse V shape occurs on the leaves (**Figure 1**).
- The ear shows a characteristic kernel-free sharp point (**Figure 2**).

Phosphate (P)

- Where the soil is very low in phosphate, the leaves, and particularly the edge of the leaf, develop a characteristic purple colour.
- Phosphate deficiencies occur mainly in younger plants.

Potassium (K)

- Potassium deficiencies in mature plants are indicated by the thin, yellowed edges of leaves. Sometimes the edges die off.
- Potassium deficiencies usually occur on the lower, older leaves.
- Kernels on the upper part of the ear are poorly filled and appear shrunken.

Magnesium (Mg)

- Magnesium deficiencies usually cause light yellow stripes on the lower leaves, which later produce a beaded effect with round, dead spots.
- Magnesium deficiencies usually occur in more acidic soils.
- A high potassium content in the soil can induce a magnesium deficiency in the plant, displaying light-green stripes on the leaf.

Sulphur (S)

- A sulphur deficiency usually displays a light yellowing of the leaves in young plants (**Figure 3**).



Figure 1: The characteristic inverted V on a mature maize leaf that indicates a nitrogen deficiency.



Figure 2: Incomplete filling of an ear of maize due to a nitrogen deficiency.



Figure 3: Yellowing of leaves due to a sulphur deficiency in a young maize plant.

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* Verslag oor 'n Amerikaanse Akademie van Mikrobiologie Colloquium.
Die Amerikaanse Vereniging vir Mikrobiologie: Washington, DC, Desember 2012.

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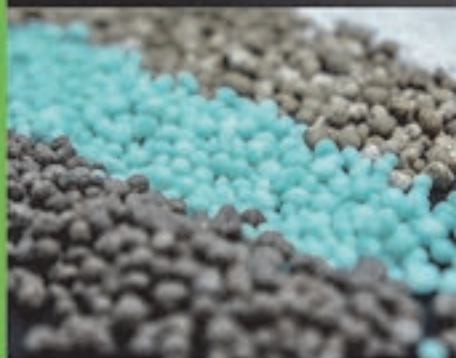


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Ten main invasive plants in South Africa

Invasive plants are a growing problem in South Africa. It would be easy to pass it off as the natural flow of things – if these plants did not have such a major economic impact on farming operations. Over time they have developed excellent survival strategies, rapidly take over large parts of farms, compete for light, water and nutrients and are also expensive and difficult to control. The Department of Environmental Affairs has released figures on the projected costs involved in controlling invasive plants (these costs exclude the control of the *Prosopis* species). The lowest cost applies in North West, namely R0,9 billion, and the highest in the Eastern Cape, namely R8 billion. Allegedly, 20 million hectares of land in South Africa have already been taken over by invasive plants.

However, the top ten invasive plants mentioned here are not necessarily the biggest problem plants in your area. Please contact the writer, Dr Franci Jordaan, for more information or for support in controlling these plants.

Acacia longifolia (Andr.) Willd.

Golden wattle or long-leaved acacia is a small evergreen tree or patulous shrub that can grow 2 m to 8 m tall. This plant is indigenous to Australia and Tasmania. It grows in a variety of soils, but prefers well-drained and moist soils. It often penetrates disturbed areas. It has a well-developed and strong root system. These plants grow very rapidly and are known for their resistance to drought and diseases. The plant produces many seeds that are easily dispersed by ants and birds – in fact, it is the high seed production that causes this plant to pose a major weed problem.

The negative aspects of the golden wattle include the following: It competes for light, space, water and nutrients; it changes the landscape and habitat; because of the many seeds and rapid growth rate it displaces the indigenous vegetation; it changes the soil microbiota and soil chemical conditions; it can have a negative effect on stream flow; it increases the risk of hot fires; the seed is a contaminant; it reduces the biodiversity and grazing capacity if it occurs in dense stands.

Biological control agents occur on the plants and have a very effective control action – they should therefore always be the first choice for controlling this plant. Fire or mechanical control (cutting down the trees) is not recommended, as the plants can sometimes sprout very quickly after such a disturbance. Various chemicals are registered to control this plant and they can be useful in combination with mechanical control to get rid of it. According to the CARA Act the golden wattle is a category 1 plant – the landowner must therefore control it.



Acacia longifolia

Acacia saligna (Labill.) H.L. Wendl

The Port Jackson willow is indigenous to Australia and is described as a perennial shrub or small tree that can grow to between 3 m and 7 m tall. It grows in a variety of soil types and occurs particularly in disturbed areas or road reserves. It has an extensive root system comprising a well-developed taproot and several shallow, lateral roots. This tree grows rapidly and its useful life is between 15 and 20 years. Many seeds are produced per plant and they are also the main propagation mechanism.

The negative aspects of the Port Jackson willow include the following: It competes for light, space, water and nutrients; it displaces indigenous vegetation quickly; it changes the landscape and habitat; contaminator (seed); obstruction – dense stands limit the movement of animals; in water and river courses it causes an obstruction to water flow; obstruction in terms of vision; consumes large quantities of water; reduces grazing capacity and biodiversity if dense stands occur. A rust fungus and seed-eating snout beetle act as biological control agents against the plants – the bio-agents are very effective and should be employed as first control mechanism. Although very hot fires can cause the tree to die, it is not recommended as control method as fire will promote seed germination. Mechanical control alone is not recommended, as sprouting will occur. Various chemicals are registered to control the plant and can be useful in combination with mechanical control. According to the CARA Act the Port Jackson willow is classified as a category 2 plant – it may occur only in a defined area if permission for this has been obtained. (Any plants outside the defined area must be controlled.) If the landowner does not have permission, it must be controlled.



Acacia saligna

Lantana camara L.

Lantana originally comes from Central and South America. It is an erect to spreading thorny shrub. It has a well-developed root system and does not display specific habitat preferences – it therefore occurs in various areas in a variety of soil types. Propagation of the *lantana* is usually through seeds that are often disseminated by birds, but new plants can also develop from the rhizomes. It is globally regarded as one of the major weed species. The negative aspects of *lantana* are the following: It competes for light, space, water and nutrients; it displaces grasses; it inhibits the growth of grass (is allelopathic); it changes the landscape and habitat, particularly if it occurs in dense stands; it is toxic to animals; it is thorny; contaminant (seed); obstruction (access, cultivation, vision); increases erosion; reduces soil binding; forms impenetrable stands; reduces the grazing capacity and biodiversity if in dense stands. Various biological control agents were released on *lantana*, but the success of the bio-agents varies, as more than 50 different types of *lantana* occur. Fire as control measure is not effective, as aggressive sprouting will occur afterwards. Mechanical control should be applied only in combination with chemicals, as mechanical control alone also causes sprouting. Various chemicals are registered for controlling the plant. According to the CARA Act *lantana* is a category 1 plant – the landowner must therefore control it.



Lantana camara

Continued on p. 82

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Ten main invasive plants in South Africa

Continued from p. 79

Opuntia robusta Wendl.

The common prickly pear or wheel cactus originally comes from Mexico. It is a large, erect, succulent shrub-like cactus that can grow up to 1 m to 2 m tall, but also as tall as 4 m. The plant does not really have leaves, but blue-grey cladodes containing several thorns. The root system of the common cactus is shallow and fibrous. It grows relatively easily in any type of soil and is drought resistant. The common prickly pear can propagate with seed or vegetatively. The negative aspects of the common prickly pear are the following: It competes for light, space, water and nutrients; displaces grazing plants if it occurs in dense stands; changes the landscape and habitat; reduces biodiversity and grazing capacity if in dense stands; obstruction (movement); thorns cause injuries in people and animals; thorny types cannot be eaten by animals; causes skin irritations. A cactus moth serves as biological control agent for this plant and is relatively successful. However, the cactus is relatively resistant to cactus cochineal. Mechanical control of the plant is often difficult because of the thorny cladodes – any part of the plant that is left behind will also grow again. There are currently no chemicals registered to control this plant – the Department of Environmental Affairs can be contacted to determine whether a substance has been registered for minor control.



Opuntia robusta

Chromolaena odorata (L.) R.M. King

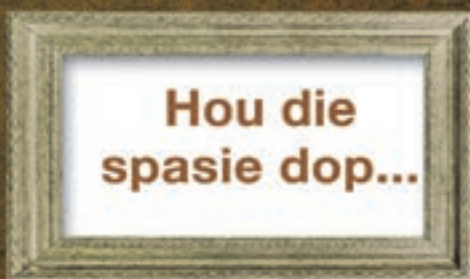
Triffid weed originally came from North, Central and South America and might have entered the country as an ornamental plant. It is regarded as one of the 100 most dangerous weeds in the world. It is an erect or creeper shrub that can grow 1,5 m to 3 m tall – as a creeper it can grow up to 10 m tall. Triffid weed occurs in higher rainfall areas, where it grows preferably in well-drained soils. However, it can also occur in a variety of soils and among various types of plants – from water courses to forested gorges. It has an extensive, shallow root system. Some of the roots develop into a bulbous storage organ from which new plants can form if the parts above ground are damaged. The plant forms a multitude of seeds that are easily disseminated by the wind, water, vehicles and people. The seeds can survive for a relatively long period in the soil.

The negative aspects of triffid weed are the following: Plants contain oils that make them highly flammable when it is dry; they displace indigenous vegetation quickly; change the landscape and habitat; compete with other plants for light, water, space and nutrients; penetrate river beds and banks and destroy the habitat of aquatic animals; they are allelopathic – secrete chemicals that suppress the growth of other plants; obstruction (movement and vision); contaminant (seed); toxic to animals; cause skin irritations and asthma problems in humans. Various biological control agents are being tested for this plant and some of them have already been released, but the success of the bio-agents is not yet known. The plants can be controlled with fire or mechanically, but new plants can develop from the bulbous storage organ. Various chemicals are registered to control the plant and can be used in combination with fire and mechanical control. According to the CARA Act this is a category 1 plant – the landowner must therefore control it.



Chromolaena odorata

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Ten main invasive plants in South Africa

Continued from p. 82

Campuloclinium macrocephalum (Less.) DC.

The pompom weed is indigenous to South and Central America and Mexico, where it was used as an ornamental plant. It is an erect, perennial herb that becomes up to 1,3 m tall. The plant has a short, woody rootstock ending in thick tuber-like or bulb-like roots. The pompom weed focuses exclusively on survival. Its extremely well-developed subterranean structures (rootstocks and tubers/bulbs) make it possible for the plant to survive difficult times. The stems and leaves constitute only 30% of the total biomass of the plant, which implies that the underground structures constitute about 70%. It can survive fire, cold and frost, as all the living parts of the plant are dormant below ground in these periods. During droughts in summer the plants can also become dormant because they withdraw the nutrients from the stems and leaves and store them in the underground roots. The plant has therefore developed survival strategies that enable it to increase rapidly in grassland and savannah areas. The pompom weed occurs in a great variety of habitats and in various types of soil. It usually occurs in very disturbed areas like road reserves, as well as in old fields that are no longer tilled, from where they spread to grasslands. The negative aspects of the pompom weed include the following: It reduces grazing capacity; it has possible allelopathic properties, which implies that it contains chemical substances that have a negative effect on the growth and development of other plants; if field hay is made and the plant is present in large quantities, the quality of the hay is reduced because of the hairy stems and leaves; if it occurs in cultivated fields, the grain yield can be reduced because of the possible allelopathic properties; it has the ability to produce an enormous number of very vigorous seeds; it develops rapidly from seed to mature plant in one season. Mechanical control of this plant is not recommended at all, as it only causes new plants to develop from the underground storage organs. Biological control agents against this plant have been released and various others are being investigated. The success of the released bio-agents is not yet known. Various chemicals are registered for controlling the plant. According to the CARA Act the pompom weed is a category 1 plant – the landowner must therefore control it.



Campuloglinium macrocephalum

Cortaderia jubata (Lem.) Stapf

Pampas grass originally came from South America (Ecuador, Peru to Argentina) and was brought to South Africa as an ornamental plant. It is a robust, large tussock grass that can be up to 3 m in diameter and up to 3 m tall. Pampas grass establishes particularly easily in moist sandy soils, but the grass has adapted to the extent that it occurs in virtually any soil and in any habitat. It occurs particularly in disturbed areas like road reserves, but also invades grasslands, rivers and coastal dunes. It has a deep and well-developed root system and grows very quickly. Propagation occurs through seeds – allegedly a single inflorescence can form 100 000 seeds. These seeds are light and are easily dispersed by the wind. They are also dispersed by water, animals, vehicles and humans. The negative aspects of pampas grass include: Smothers indigenous vegetation by overshadowing the plants; competes with other plants for light, space, water and nutrients; it is drought resistant and therefore survives stressful conditions; changes the landscape and habitat; increases



Cortaderia jubata

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Ten main invasive plants in South Africa

Continued from p. 85

the potential for fires as a result of the large amount of biomass it produces; obstruction (vision); seeds cling to fruit, which reduces the quality of the fruit; leaves are very sharp – can injure humans and animals; causes respiratory problems in humans (aggravate asthma); plant causes skin irritations. Mechanical control of the plant is very difficult, as it will harm the surroundings. Small plants can be pulled out by hand, but it is labour intensive. There are no biological control agents for the plant. Various chemicals are registered for controlling pampas grass. According to the CARA Act it is a category 1 plant – the landowner must therefore control it.

Salvinia molesta D.S.Mitch.

The kariba weed is indigenous to South America (Brazil) and entered South Africa as an ornamental plant for fish ponds and aquariums. From these sources it spread to other water sources. Kariba weed is a free-floating water fern with horizontal, branched rootstocks without roots. The kariba weed propagates vegetatively, in other words each section of the plant that breaks off has the potential to form a new plant. It is because of this property that it can form very dense stands extremely quickly. It can occur in any body of water – rivers, dams, lakes, irrigation channels and drainage channels. The negative aspects of the kariba weed include the following: It changes the appearance of the body of water; competes for space, light and nutrients; smothers any other plants that occur; obstruction (access with boats, for example); obstruction of water flow; increases water loss considerably; increases habitat for mosquitoes and bilharzia-bearing snails considerably; reduces water quality considerably as it removes oxygen from the water; increases deaths among natural aquatic animals.

Mechanical control of the plants is usually recommended – start with the smallest infestations first. However, it is important for every part of all plants to be removed, as the smallest part can lead to the development of new plants. Chemicals can also be used very well in combination with mechanical control. However, as the plants occur in bodies of water, chemicals must be used with care. There are also effective biological control agents for this plant – in Australia in particular great success has been achieved with bio-agents. According to the CARA Act the kariba weed is a category 1 plant – it must therefore be controlled.



Salvinia molesta

Eichhornia crassipes (C.Mart.) Solms

Water hyacinths originally come from South America, particularly from the Amazon. Water hyacinths are aquatic plants, free floating or anchored in shallow water and can multiply rapidly through runners that form new plants. The roots of floating plants are long and penniform. In shallow water the roots will penetrate the soil – only under these conditions will the plant form flowers. Water hyacinths propagate vegetatively or through seeds, which can survive up to 15 years. Water hyacinths occur in eutrophic, nutrient-rich bodies of water like dams, rivers and canals in particular. The negative aspects of water hyacinths are the following: Compete for light, space and nutrients; reduce the possibility of physical movement through the water; change the habitat and landscape (reduce the aesthetic value); reduce opportunities like fishing; can cause mechanical damage to hydro-electric installations; reduce the irrigation capacity of channels and rivers; reduce



Eichhornia crassipes

water flow; increase evapotranspiration and therefore increase water loss; reduce oxygen content of the water; reduce water quality; habitat for mosquito larvae and bilharzia-bearing snails. There are biological control agents that are registered for controlling the water hyacinth – these bio-agents are very effective and must be the first priority in a control programme. Plants can also be removed manually or mechanically with machinery that moves on the water or is placed on the banks. However, care should be taken that every part of the plant is removed, as parts that remain behind will grow again. Various chemicals are registered to control the plant – they can be useful in combination with mechanical control. The CARA Act classifies water hyacinths as a category 1 plant – landowners must therefore control it.

***Pennisetum setaceum* (Forssk.) Chiov.**

Crimson fountain grass is a thick, erect tussock grass that can live between 15 and 20 years. The leaves bend down to the ground and the stems can be between 20 cm and 100 cm long, but it can be as high as 1,5 m. Crimson fountain grass occurs in a variety of soil types and it is a weed in disturbed soil like road reserves, along railway lines and on dumpsites; it also occurs in grasslands, savannah areas, coastal areas and even stony areas. It has a well-developed, fibrous root system and is described as moderately to very drought resistant. It propagates through seeds that can be dispersed by the wind, water, animals and humans. The negative aspects of crimson fountain grass are the following: Competitive for light, water and nutrients, displaces indigenous vegetation; unappetising; contaminant (seed); reduces the biodiversity and grazing capacity; increases the risk of fires because of the high biomass of the grass; reduces the water table level because it absorbs a lot of water from the topsoil. There are no biological control agents for this grass. If the plants are small, they can be pulled out by hand. Mechanical control is not recommended, unless it occurs in dense stands. If it occurs in dense stands, it can be cut regularly to prevent seed formation – however this must be done on a monthly or bimonthly basis and it can take up to four years before the grass is under control. This form of control is therefore very expensive. A chemical is registered to control the grass – it can be useful in combination with mechanical control. According to the CARA Act crimson fountain grass is a category 1 plant – the landowner must therefore control it if it does occur.



Pennisetum setaceum

References

- Anonymous. 2010. Cara legislation made easy. *The Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983) (CARA)*. Department of Agriculture, Forestry and Fisheries.
- Henderson, M. Fourie, D.M.C., Wells, M.J. & Henderson, L. 1987. Verklaarde onkruid en uitheemse indringerpante in Suid-Afrika. *Departement van Landbou en Watervoorsiening: Pretoria*.
- Henderson, L. 2001. Alien weeds and Invasive plants. Paarl Printers: Cape Town.
- Sharp, D. & Klein, H. 2012. Invasive cacti and succulents. *Department of Environmental Affairs. (Unpublished)*.
- Wells, M.J., Balsinhas, A.A., Joffe, H., Engelbrecht, V.M., Harding, G. & Stirton, C.H. 1986. A catalogue of problem plants in Southern Africa. *Memoirs of the Botanical survey of South Africa, No. 53. Department of Agriculture and Water Supply: Pretoria*.

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Risks when purchasing input resources

The use of untested input resources and the purchasing of input resources from unknown distributors expose producers to great risks every year. Take note of the following tips when purchasing and using input resources:

- Make sure that the input provider is a recognised company with a proven record.
- Ensure as far as possible that all recommendations are provided in writing and store these copies safely.
- Try to keep a record of all purchases as far as possible.
- Check the quality of the input resource. For seed the germination of the seed lot concerned can be requested, for example.
- Seed treatment should be done by the seed company itself or with certified seed treatment equipment.
- When purchasing agrochemicals:
 - Make sure that the input resource is registered for the purpose for which it is being used.
 - Make sure that the company whose input resource is being used is a member of CropLife.
 - Make sure that the distribution company is a member of CropLife and that the agent is qualified.
 - Consult the 2015 MIG publication of the ARC-Grain Crops Institute.

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

As far as rhizobia bacteria are concerned, it is important to use only registered (L registration in terms of Act No. 36 of 1947) input resources. The product concerned must also preferably be recommended by the seed company whose seed is being planted. Do not use new products on a large scale.

As far as prices are concerned, make sure that you pay the best market-oriented price. Obtain at least three quotes where possible and do not just accept the first and best price. Members are free to contact Grain SA with respect to input price trends.

Important when purchasing soil improvers, foliar nutrition and organic substances

The action of these input resources is not in question, but producers must note that some of these input resources have not been properly tested or registered in terms of Act No. 36 of 1947. When considering using such an input resource, you should therefore note the following:

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

Grain SA is of the opinion that this type of input resource must first be tested statistically by a recognised independent local institution for sustainable production improvement with respect to economic benefit before it can be registered and marketed.

Corné Louw, senior economist: Inputs, Grain SA

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Publications of the Agricultural Research Council (ARC)

Publications available from the ARC-GCI:

1. Compact disk (CD) on the production of maize, pests and diseases.
2. *Laserskyf (CD) oor die produksie van mielies, peste en siektes.*
3. Field guide for sorghum pests/*Veldgids vir sorghumplae.*
4. *Sorghum-produksiehandleiding.*
5. *Sonneblomproduksie: 'n Bestuursgids vir die eenprodusent*
6. Production of dry beans (Xhosa).
7. Production of soybeans/*Produksie van sojabone.*
8. *Produksie van grondbone ("Grondbone – Altyd 'n wenner").*
9. Groundnut diseases and pests/*Grondboonsiektes en -plae.*
10. Revised common weeds in Southern Africa/*Algemene onkruid in Suidelike Afrika.*
11. Maize Information Guide (MIG) – updated annually.

For more information or to obtain an order form, contact Mary James on 018 299 6100/6253 or send an email to jamesm@arc.agric.za.

Available from the ARC-SGI in English or Afrikaans:

1. *Veldgids vir die identifikasie van koringinsekte in Suid-Afrika.*
2. *Wheat Diseases in South Africa.*
3. *Hulpmiddelversurings en waterkwaliteitseffekte op onkruidodders.*
4. *Handleiding vir die produksie van kleingrane in die somerreënvalgebied (jaarliks opgedateer).*
5. *Handleiding vir die produksie van kleingrane in die winterreënvalgebied (jaarliks opgedateer).*
6. Guidelines for the production of small grains in the summer rainfall region (updated annually).
7. Guidelines for the production of small grains in the winter rainfall region (updated annually).

For orders, contact Elri Burger on 058 307 3400/19 or send an email to burgere@arc.agric.za or post your order to the ARC-Small Grain Institute, Private Bag X29, Bethlehem, 9700.

Quality problems with agrochemicals? How to...

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

- Contact the representative from whom the agrochemicals were bought as soon as possible and insist on an investigation on site. Also keep a record of dates and conversations.
- Gather and write down as much information as possible, take photos or make videos to refer back to later.

Consider the following steps if the problem is not solved (do not wait too long with this):

- Contact an independent scientist to do an investigation on site.
- Inform Grain SA if the chemical company cannot provide the required attention and solutions for the relevant problems.

Corné Louw, senior economist: Inputs, Grain SA

Tank mixtures may have a different effect from what you think

Most of the time producers underestimate the impact a tank mixture of agrochemicals has on crop production.

There are a multitude of seed treatments, herbicides, insecticides, fungicides, nematicides as well as plant growth regulators on the market that can be used by producers. However, these products must be mixed strictly according to registration prescriptions. This means that every product label contains a section that addresses 'mixability/mixing instruction', and that agrochemicals cannot be mixed with each other randomly. The effect and impact of a tank mixture usually cannot be perceived immediately, but only at the end of a season when you harvest, or even only the next season if the agrochemicals have a long aftereffect and residue remained in the soil.

When chemicals are mixed randomly, they can either inhibit or increase the action of the various products, which can lead to crop damage and/or ineffective control. It is therefore not the products that are defective, but the tank mixture. The so-called hardness and pH of water also play a major role when chemicals are mixed. When so-called hard water (an indication of, among other things, CaCO_3 in the water) or water with a too low pH (<4) is used to mix agrochemicals, the active ingredients can precipitate, form an emulsion (a gel-like liquid) or bind to other molecules and not dissolve – the right active ingredient is then not available to do its work.

There is also a definite sequence in which agrochemicals must be mixed in tank mixtures. Firstly, the water must be corrected. When the pH is too low, a buffer must be added to the tank water first. A product like ammonium sulphate can then be added (if required and as prescribed on the product label) to correct hard water. The formula (which is an indication of the solubility of a product in water) of agrochemicals also plays a role in the mixing of products. This is indicated on the label, or sometimes in the name of a product. Roundup PowerMax™ or Guardian S® EC, for example, are soluble concentrates (SL), which indicates that they are emulsifiable concentrates. The correct sequence of certain formulations is the following: WG>GR>WP>SC>CS>EC>SL.

When the product has to be mixed in the tank water, it is advisable to first dissolve the product in a little water and then mix it with the rest of the tank water (which has been prepared), particularly when the product consists of granules. Certain herbicides can be successfully (and in accordance with registration) mixed with an insecticide, but as a rule fungicides cannot be mixed with herbicides. The addition of any other products like growth regulators and additives (penetrators, wetting agents) must be done very carefully. Only registered products with indications on their labels may be added and mixing instruction must be followed at all times. Producers can cause considerable harm by randomly mixing any chemicals with agrochemicals.

For further enquiries, contact dr Elbé Hugo at 018 299 6298 or send an email to HugoE@arc.agric.za.

Elbé Hugo: ARC-GCI



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DEO GLORIA

Use pesticides responsibly

As agriculturists we must use agricultural substances or pesticides responsibly – to such an extent that we are able to produce sufficient, safe and affordable food and fibre for the country without affecting the health of people and the environment.

There is an entire pack of anti-pesticide mutts baying about the producers and how they poison everything, but they are seldom able to place any proof of their allegations on the table. Here is some hay to chew on, and yes, some will digest easily, but some will require a lot of chewing. I call these the ten commandments of responsible pesticide use:

- 1** Plan your production season carefully and purchase only the pesticides and volumes that you will definitely need. If the agent offers anything at a cheap price and you purchase unnecessary products, they will only accumulate.
- 2** Buy only registered pesticides from recognised dealers, in other words agents associated with CropLife South Africa's member companies, in order to ensure that they are of a good quality and legal. If a pesticide does not contain a registration number on the front panel of the label, it is illegal in South Africa. Such a registration number starts with a capital L, followed by four numbers (e.g. L1234) and Act No. 36 of 1947.
- 3** Store your pesticides in a proper storage place that has walls, a roof, ventilation, lighting and locking doors. Many malicious poisonings occur with agricultural substances stolen from producers, and often it is the producer's own animals that die from them.
- 4** Study the label of each agricultural substance carefully and apply it strictly according to the prescriptions. Regulation No. R1716 of 26 July 1992 warns that using an agricultural substance for any purpose or in any manner other than that indicated on the label is a criminal offence in terms of Act No. 36 of 1947.
- 5** Provide your farmworkers with basic training on the safe and responsible use of pesticides. This will lead to more effective and responsible use as well as better production.
- 6** Wear protective clothing, for example a face mask, a cloth cap, long sleeves, long trousers and gloves when mixing and applying pesticides (this applies to the tractor driver who will spray the pesticide as well). Protect yourself against possible splatter, mists and oral intake of pesticides and spray mixtures.
- 7** Calibrate the spraying equipment so that the correct dosage of the pesticide is applied. This includes checking spray heads to make sure that they are not worn or blocked. Spray pressure must also be correct, as must the engine revolutions of the tractor and the speed at which the tractor moves.
- 8** Pesticides must be applied only if the weather is favourable. If the southeaster is blowing or the Highveld thunder clouds are looming, or if it is so hot that everything just evaporates, stop applying the pesticide. The wind may blow the pesticide mists across to the neighbour's potato fields and that might get you into trouble.

Continued on p. 101



AI3411/66

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Use pesticides responsibly

Continued from p. 98

- 9** After pesticide containers have been emptied, they should be rinsed at least three times with one-third volume clean water, and the rinse water must be added to the spray tank. Containers should then be dried in the sun and preferably cut full of holes or cut up completely before being supplied to plastics recyclers. See www.avcasa.co.za for the list of recyclers.
- 10** Avoid malicious abuse of pesticides, for example poisoning animals that may cause damage. This is not only illegal and inhumane, but also creates a secondary poison risk for other animals. Poisoning has already seriously affected some species like vultures and the agricultural community is blamed for this.

Contact Dr Gerhard Verdoorn at 082 446 8946 or neshher@fiscali.co.za.

Dr Gerhard H Verdoorn (Griffon Poison Information Centre and Association of Veterinary and Crop Associations of South Africa [AVCASA])

Steps to calibrate for spraying

If you want to calibrate for spraying quickly, follow the steps below (for overall spraying):

1. Decide in which gear and at what engine revolutions you intend spraying with your tractor. Fill the tank with water and then determine the time it will take for the tractor to travel 100 m in the field.
2. Make sure that the sprayer is fitted with the right spray heads. With the tractor stationary, switch on the pump and adjust the spray pressure to the desired level and at the same engine revolutions as in Step 1.
3. With the spray pressure set at the desired level, measure the amount of water delivered by each spray head in the time period as determined in Step 1.
4. Measure the total spray width of the sprayer.
5. With the aid of the above information, calculate the spray volume per hectare:

$$\text{Spray volume} = \frac{10\,000 \times \text{total volume of water (litres) (as determined in Step 3)}}{\text{distance (100 m)} \times \text{sprayer width (metres)}}$$

6. If the desired spray volume is not obtained, repeat Steps 1 to 5 with different gear combinations until the desired volume per hectare is applied.
7. Now calculate the correct volume of herbicide to be added to the spray tank:

$$\text{Volume of herbicide to be added to tank} = \frac{\text{content of tank} \times \text{herbicide dosage/ha}}{\text{spray volume/ha (as determined in Step 5)}}$$

Jan de Villiers, Ficksburg



Tackle queleas effectively

The Agricultural Pests Act (Act No. 36 of 1983) declare queleas and locusts to be pests. The Department of Agriculture, Forestry and Fisheries is responsible for controlling them.

Procedures to be followed by the complainant to report queleas

Before an official of the department can do a physical inspection, the following procedures/steps must be followed by the complainant:

- a) The correct sleeping or breeding area of the flock of queleas causing the damage must be correctly identified. The area can only be identified early in the evening, as the queleas will not be at their respective nests during the day. Breeding flocks will have nests and they can be used during the day to identify the breeding area.
- b) If the area identified is not the property of the complainant, the complainant must obtain permission for access and possible control actions from the landowner concerned.

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

Contact details for queleas:

John Tladi

Deputy Director: Migrating Pests
Tel: 012 309 5743
Cell: 082 457 3741

Khuliso Gangashe

Assistant Director
Tel: 012 309 5823
Cell: 072 231 2192

Colin Burke

Tel: 012 309 5826
Cell: 082 451 4861

Luka Geertsema

Tel: 012 309 5824
Cell: 082 457 3742

Contact details for locusts:

Gert Greyvenstein

Migrating Pests Officer: De Aar
Cell: 082 451 4860

Contact details for army worms:

John Tladi

Deputy Director: Migrating Pests
Tel: 012 309 5743
Cell: 082 457 3741

Corné Louw, senior economist: Industry Services, Grain SA



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- ✓ Saad



Watch out for GERBILS

If you have not yet encountered gerbils, it will definitely happen at some stage. All grain farmers must be aware of the possible occurrence of gerbils in their production areas.

- 1** Be on the lookout for burrows with a diameter of 60 mm in the headland and on the sides of cultivated fields. If you find such holes, it is definitely time for an anti-gerbil campaign.
- 2** Gerbils must be hit hard when they are at their most vulnerable, namely at the end of winter in the summer rainfall areas and at the beginning of autumn in the winter rainfall areas. This is when the animals are hungry and will react the best to rodenticide bait.
- 3** Only registered anticoagulant rodenticides registered for gerbils, as well as zinc phosphide and aluminium phosphide, may be used. Anything else – for instance aldicarb and carbofuran – will not have the desired effect and it is also a criminal offence under Act No. 36 of 1947 to use such substances.
- 4** The anticoagulants must be administered in 750 mm long 75 mm irrigation pipes: string three or four cubes on a thin wire and then hide the wax cubes inside the pipe, where the gerbils can eat them and other animals cannot reach them. Place the bait pipes 50 m apart around the field, or even within the field where there are colonies. Supplement every fourth day until the population has been eradicated. Pick up dead gerbils and bury them.
- 5** Zinc phosphide can be used as ready-to-use bait or producers can prepare their own bait: Soak cull maize in water until it germinates. Dry quickly and then mix according to instructions on the label with zinc phosphide and cooking oil. Use the same pipe as for the anticoagulants and place two tablespoons of the bait in the pipes, every 50 m around the field. Such bait can also be placed directly in the burrows (use a 25 mm pipe and a funnel), and close up the burrows. Zinc phosphide kills them quickly and the animals seldom die above ground. Under no circumstances should you distribute the bait across the fields with fertiliser dispensers or plant seed that has been treated in this manner! This would be totally ineffective and holds the risk of poisoning.
- 6** Bait drums can also be used: cut a 210 litre drum in half and plant it level with the ground. Fill one-third with water and sprinkle sunflower seeds on the water. The gerbils drown when they jump into the drum to eat the seeds.
- 7** Plant seats for owls and raptors. One pole 2,4 m tall every 50 m, and one pole 1,4 m tall every 50 m. Sprinkle seed around the pole in the late afternoon so that it attracts the gerbils and the owls can hunt them. Also construct an owl box: One owl box per 50 ha is sufficient.
- 8** Plant a bait crop of cull seed in the headland at the same time the crop is planted. The bait crop should be densely planted so that the gerbils prefer to eat there rather than in the crop itself.
- 9** Where conservation tillage is implemented, the risk of gerbil infestation is almost 100%, as the abolishing of deep tillage means that the colonies are no longer destroyed. Such fields where gerbils flourish should be ploughed thoroughly and deeply once every four years.
- 10** For a complete management plan for gerbils, email a request to neshet@tiscali.co.za.

Dr Gerhard H Verdoorn (Griffon Poison Information Centre and Association of Veterinary and Crop Associations of South Africa [AVCASA])





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General management guidelines for cattle

Guidelines for licks

An example of a basic lick programme for the central Free State and North West Province. (the eastern Highveld can start a month earlier.)

Month	Type of lick		
	Cows/bulls	Replacement heifers (8 to 12 months)	Steers (8 to 12 months)
January	Summer lick		
February	Summer lick		
March	Summer lick		
April	Transition lick		
May	Transition lick		
June	Winter lick	Production lick	Production lick
July	Winter lick	Production lick	Production lick
August	Winter lick	Production lick	Production lick
September	Winter lick	Production lick	Production lick
October	Winter lick	Production lick	Production lick
November	Summer lick	Production lick	Production lick
December	Summer lick	Production lick	Production lick

Typical lick intakes

Summer salt-phosphate lick		100 g - 240 g/animal/day
Transition lick	10% - 20% RP	200 g - 800 g/animal/day
Winter lick	40% - 50% RP	400 g - 600 g/animal/day
Production lick	25% - 30% RP	1 000 g - 1 500 g/animal/day

These remain guidelines. Talk to your livestock scientist to compile the right lick programme for your area.

Carrying capacity and dry material intake

LSU for cattle with different frame sizes (Meissner et al., 1983).

Class	Small frame		Medium frame		Large frame	
	Weight	LSU	Weight	LSU	Weight	LSU
Bull	600	1,36	600	1,38	650	1,63
Cow, dry (3 years)	400	1,01	450	1,13	500	1,27
Cow, dry (mature)	500	1,10	525	1,21	550	1,32
Cow, pregnant (3 years)	400	1,01	450	1,13	500	1,27
Cow, pregnant (mature)	500	1,10	525	1,21	550	1,32
Cow, with calf (3 years)	400	1,22	450	1,40	500	1,66
Cow, with calf (mature)	500	1,42	525	1,55	575	1,82
Weaner	180	0,44	200	0,53	225	0,64
Ox (18 months)	300	0,75	350	0,90	400	1,09
Ox (mature)	490	1,10	550	1,22	585	1,33

Basic norms for the number of cows that a farm with a carrying capacity of 100 LSU can carry with different production systems:

Weaner system:	1 medium-frame cow = 1,7 LSU = 58 cows for the farm
Steer system (18 months):	1 medium-frame cow = 2,2 LSU = 45 cows for the farm
Ox system (30 months):	1 medium-frame cow = 3,1 LSU = 32 cows for the farm

Voluntary daily dry material intakes (DMI)

Meissner et al (1983) work on an average DMI of 2,5% of body mass for growing animals. If moisture content and hay wastage are included, the average roughage intake (hay) is approximately 3,0% of body mass.

For lactating animals the average DMI is 3,0% (2,7% - 3,3%) of body mass. If moisture content and hay wastage are included, the average roughage intake (hay) is approximately 3,5% of body mass.

Health management

An example of a basic vaccination programme for a spring calf system:

Cattle: Spring calf season		
Vaccination	Animals being vaccinated	Month of vaccination
Lumpy skin disease, Rift Valley fever	Bulls, cows and replacement heifers	Before calving (Jul/Aug)
Blackleg/botulism/anthrax or multiclostridial vaccine + anthrax	Bulls, cows, replacement heifers and suckling calves	Autumn/before weaning (Apr)
Contagious abortion	Replacement heifers	S19 – before the age of 8 months (Feb/Mar) RB51 – before weaning (Mar/Apr), repeat twice before heifers are mated for the first time
*BVD/respiratory diseases	Cows, replacement heifers and suckling calves	6 to 8 weeks before mating season/(Nov/Dec) Before weaning (Mar/Apr)

NB. All animals that are vaccinated with an inactivated (dead) vaccine for the first time must receive a booster three to six weeks later (as prescribed by the manufacturer) to be effective!

*NB: Make sure in what cases 'live' or 'dead' vaccines can/should be used and the correct positioning of this to prevent possible losses/damage.

Check with your vet to make sure the programme is right for your operations and your area.

Internal parasites that regularly occur in cattle:

Type of worm or name of parasite	Month of occurrence	Animals affected by the parasite	Active ingredients required to treat animals (due to limited space only the main active ingredients are mentioned)
Roundworms (cattle bankrupt-worm, wireworm, nodular worm)	Summer months	All, but particularly immature animals	Macrocyclic lactone, white substances (Albendazole, etc.), Laevamisole
Liver fluke	Summer months strategic treatment: Apr/May and Aug/Sep Tactical treatment: Dec/Jan	All	Immature and mature stages: Triclabendazole Early immature and mature stages: Clorsulon, Nitroxylin, Closantel, Albendazole, Rafoxanide, Oxyclozanide
Conical fluke	Apr to Aug	All	Resorantel, Oxyclozanide
Tapeworm	Whole year	Suckling calves	Praziquantel, Niclosamide
Coccidia	Whole year	Young calves (3 weeks +)	Diclazuril, Toltrazuril

Take the necessary dung sample, have it analysed and ask the assistance of experts to optimise your dosing programme.

Pietman Botha, agricultural consultant



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Nasionale Verkoopsbestuurder
082 888 2184

Noordelike Span



Mark Barlow
Noordelike Verkoopsbestuurder
082 456 6252



Jeremy Bosman
Hartbeesfontein, Klerksdorp, Oberholzer,
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Select the right feed crop

Feed flow planning is vital for decisions to be made regarding the crops to be planted and used. Every feed crop has its unique properties and growth curve. Adjust this to the livestock flow and select the right crop.

Feed crops

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



Lucerne

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

Intensive grasses and mixtures

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

Dryland winter crops

High-potential oats, triticale and stooling rye cultivars are available, as are cultivar packages that produce good-quality green feed in the critical late autumn, winter and spring months. The right choice of cultivar ensures green feed that produces sufficient grazing at the right time. Green-feed cultivars, like wheat cultivars, are divided into spring, intermediary and winter types on the basis of their habit. Each of these types has its own utilisation method in a feed-flow programme. It is therefore important to take note of the properties of each of the types in order to utilise its top benefits.

Annual sub-tropical crops

These crops establish and produce feed rapidly. Hybrid babala and feed sorghum hybrids are used as grazing, silage and standing hay and/or green chop respectively. Teff cultivars are not merely a commodity, but have been developed to give the producer a head start. Teff is an excellent hay crop and on average produces two cuttings per season.

Perennial sub-tropical crops

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

Most of this information comes from Pannar. Visit their website at www.pannar.co.za for more information.

Pietman Botha, agricultural consultant

Feed analysis laboratories in South Africa

Laboratory	Contact number
Animal & Poultry Science, School of Agricultural Sciences & Agribusiness, University of KwaZulu-Natal	033 260 5158
Animal Production Feed Laboratory (Elsenburg), Department of Agriculture, Western Cape	021 808 5229
ARC-Irene Analytical Services (ANPI)	012 672 9292
Agri Enviro Lab, Bethal	017 647 1150
ALS Analysis and Inspection-Durban (Pty) Ltd	031 301 1257
Animal Nutrition Laboratory, University of Free State, Bloemfontein	051 401 2382
Bio-Industrial Services CC, Edenvale	011 822 8135
Chem Nutri Analytical, Kempton Park	011 316 8800
DARD: Soil Analytical Services, Pietermaritzburg	033 355 9456
Department of Animal Science, University of Stellenbosch	021 808 4741
Deltamune, Lyttleton	012 664 5730
Food & Beverage Laboratory, CSIR, Cape Town	021 658 2770
Intertek Agricultural Laboratory, Bapsfontein	011 964 1004
Intertek Oil, Chemical & Agri, Durban	031 274 8000
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Dailena Pienaar, president: AgriLASA

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LEONARD FLETCHER - Pietermaritzburg
082 826 6526



ODETTE SALZWEDEL - Howick
082 826 6529



RICH NGQOTHENI - Stanger
082 553 3523



Vryheid-area
082 567 4456



ANDRÉ VEENSTRA - Underberg
082 557 2805



SIYA MAHLANGABEZA - Mthatha
071 332 0859



LUNGA LUDIDI - Kokstad
082 556 2997



PHILEMON ZACA - Mooiriver
082 826 6541



UVIWE NJENJANI - Port Elizabeth
082 577 8851

Doctormac: Reg. Nr. 6375 (Wet 36/1947), N-SR 0652. One Shot Ultra 7: Reg. Nr. 62818 (Wet 36/1947), N-SR 1010. Bovishield Gold 5: Reg. Nr. 63675 (Wet 36/1947), N-SR 1339. Bovishield FP4 + LS: Reg. Nr. 63559 (Wet 36/1947), N-SR 1338. Glanac: Reg. Nr. 63247 (Wet 36/1947). Ultrachoice J: Reg. Nr. 62804 (Wet 36/1947), N-SR 1012. Callmaster 4: Reg. Nr. 62016 (Wet 36/1947), N-SR 1061. Cydectin Inopulbaar: Reg. Nr. 61463 (Wet 36/1947), N-SR 0072 (Namibie). Cydectin LA Inopulbaar: Reg. Nr. 63449 (Wet 36/1947), N-SR 0105 (Namibie). Cydectin Ewequard: Reg. Nr. 63541 (Wet 36/1947), N-SR 0135 (Namibie). Cydectin 0,2% Orale Oplossing: Reg. Nr. 62381 (Wet 36/1947), N-SR 00934. Cydectin Plus Iapex: Reg. Nr. 63407 (Wet 36/1947), N-SR 0281 (Namibie). Valbazen vir beeste: Reg. Nr. 6444 (Wet 36/1947), N-SR 0281. Valbazen vir skape en bokke: Reg. Nr. 6197 (Wet 36/1947), N-SR 0282. Valbazen Ultra: Reg. Nr. 62517 (Wet 36/1947), N-SR 0534. Valbanic: Reg. Nr. 61302 (Wet 36/1947), N-SR 0281.



VOERKRALE / FEEDLOTS

★ **ANDRÉ VAN DEVENTER**
082 556 9820

★ **NAMIBIË**

ADRIAAN LOUW - Windhoek
00264-811297105

SENTRAAL / CENTRAL

★ **TINY NAUDE - Bultfontein**
082 571 5499

● NEELS BRITS - Vryburg
082 449 9603

● JOHANNES VAN ROOYEN - Bloemfontein
082 567 4465

● GERRIE ROOS - Bethlehem
082 567 4517

● HERNUS LE ROUX - Bloemhof
082 826 6527

● GUILLAUMÉ TALJAARDT - Frankfort
082 493 1079

SUID / SOUTH

★ **MICHAEL DE KLERK - Port Elizabeth**
082 556 0321

● GERHARD STEENKAMP - Durbanville
082 556 9347

● JACQUES DE VILLIERS - Queenstown
082 334 0278

● Somerset-Oos-area
082 554 1699

● JACQUES VAN ZYL - Hanover
082 448 8665

● DEON VAN WYK - Jeffreysbaai
082 826 6530

● MAGDA BRINK - Cradock
082 783 7559

● LEON VAN DER MERWE - Swellendam
082 855 4935

● Mosselbaai-area
082 773 9514

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GELDSAKE/MONEY MATTERS

Grain marketing calendar for 2016

1. Crop Estimates Committee and SAGIS dates for 2016

Monthly information

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAGIS monthly data	26	24	29	26	25	27	26	24	26	25	25	22
Crop Estimates Committee	27	11 & 25	30	26	12 & 26	28	27	25	27	26	24	20
Supply and Demand Committee	12 & 29	29	1/4/2016	3/5/2016	31	1/7/2016	29	30	30	28	29	-

Weekly information

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAGIS weekly bulletin			3			2			1			1
	7	4	10	7	5	9	7	4	8	6	3	8
	14	11	17	14	12	17	14	11	15	13	10	X
	21	18	24	21	19	23	21	18	22	20	17	X
	28	25	31	28	26	30	28	25	29	27	24	X

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAGIS weekly import and export data			1		4			2			1	
	6	2	8	5	10	7	5	10	6	4	8	6
	12	9	15	12	17	14	12	16	13	11	15	X
	19	16	23	19	24	21	19	23	20	18	22	X
	26	23	30	26	31	28	26	30	27	25	29	X

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAGIS weekly producer delivery data			2			1		3			2	
	7	3	9	6	5	8	6	11	7	5	9	7
	13	10	16	13	11	15	13	17	14	12	16	X
	20	17	24	20	18	22	20	24	21	19	23	X
	27	24	31	28	25	29	27	31	28	26	30	X

Notes

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

X = No publication will be released in that week

2. JSE dates for contracts

Dates for main trading months

(100 tons of white and yellow maize and 10 tons of wheat, sunflower, soybeans and sorghum)

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

MATURITY MONTHS	FIRST POSITION DAY	FIRST NOTICE DAY	LAST NOTICE DAY	LAST TRADING DAY	FIRST DELIVERY DAY	LAST DELIVERY DAY	OPTION MATURITY DATES
Sep 2015	28/08/2015	31/08/2015	23/09/2015	22/09/2015	01/09/2015	25/09/2015	25/08/2015
Dec 2015	27/11/2015	30/11/2015	24/12/2015	23/12/2015	01/12/2015	28/12/2015	24/11/2015
Mar 2016	26/02/2016	29/02/2016	23/03/2016	22/03/2016	01/03/2016	24/03/2016	23/02/2016
May 2016	28/04/2016	29/04/2016	25/05/2016	24/05/2016	03/05/2016	26/05/2016	22/04/2016
Jul 2016	29/06/2016	30/06/2016	25/07/2016	22/07/2016	01/07/2016	26/07/2016	24/06/2016
Sep 2016	30/08/2016	31/08/2016	26/09/2016	23/09/2016	01/09/2016	27/09/2016	25/08/2016
Dec 2016	29/11/2016	30/11/2016	23/12/2016	22/12/2016	01/12/2016	27/12/2016	24/11/2016

Dates for all fixed monthly contracts

These contracts are offered 40 business days before the actual delivery month. (Notice A1372)

MATURITY MONTHS	OFFER	FIRST POSITION DAY	FIRST NOTICE DAY	LAST NOTICE DAY	LAST TRADING DAY	FIRST DELIVERY DAY	LAST DELIVERY DAY
Nov 2015	04/09/2015	29/10/2015	30/10/2015	24/11/2015	23/11/2015	02/11/2015	25/11/2015
Jan 2016	04/11/2015	30/12/2015	31/12/2015	25/01/2016	22/01/2016	04/01/2016	26/01/2016
Feb 2016	02/12/2015	28/01/2016	29/01/2016	23/02/2016	22/02/2016	01/02/2016	24/02/2016
Apr 2016	02/02/2016	30/03/2016	31/03/2016	22/04/2016	21/04/2016	01/04/2016	25/04/2016
Jun 2016	04/04/2016	30/05/2016	31/05/2016	24/06/2016	23/06/2016	01/06/2016	27/06/2016
Aug 2016	03/06/2016	28/07/2016	29/07/2016	25/08/2016	24/08/2016	01/08/2016	26/08/2016
Oct 2016	05/08/2016	29/09/2016	30/09/2016	25/10/2016	24/10/2016	03/10/2016	26/10/2016
Nov 2016	06/09/2016	28/10/2016	31/10/2016	24/11/2016	23/11/2016	01/11/2016	25/11/2016

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

Grade differentials for wheat

Table 1 contains the grade differentials for wheat during the 2015/2016 marketing year as announced by Safex. The differentials apply from 1 October 2015 to 30 September 2016. Market participants are reminded that the differentials apply to physical delivery only if futures are fulfilled to facilitate the standardisation of the wheat contract. Grade differentials in the cash market can therefore differ from these.

Table 1: Grade differentials for wheat from the 2014/2015 to the 2015/2016 marketing year:

Grade	2014/2015 R/ton	2015/2016 R/ton
B1		
B2	145	155
B3	290	310

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

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



Sampling and grading of grain made easy

Test the quality of your grain

As the only independent grain quality testing laboratory in South Africa, the Southern African Grain Laboratory (SAGL) pursues accurate results and client satisfaction. When the laboratory that is used implements accredited test methods, functions under an overhead quality system and is technically competent, accurate test results are generated on which you can base informed decisions.

The SAGL provides excellent service with respect to grain and grain products at market-related prices, and offers milling, physical, chemical, rheological, baking, mycotoxin as well as macro and micro-nutrient analyses. They annually release crop quality surveys for wheat, maize, soybeans and sunflowers that are funded by the Winter Cereal Trust, Maize Trust and Oil and Protein Seeds Development Trust respectively.

Feel free to contact the SAGL for more information.

Physical address:
Grain Building
477 Witherite Road
The Willows
Pretoria

Postal address:
PostNet Suite #391
Private Bag X1
The Willows
0041

Email: info@sagl.co.za

Tel: 012 807 4019

Fax: 012 807 4160

Fax to email: 086 216 7672

Website: www.sagl.co.za

Problems with sampling and grading

Silo owners follow the published grading regulations with respect to sampling and grading. In exceptional cases, for example when a producer is unhappy with the grade awarded to his load of grain or oilseeds, in-house rules determining the handling of the case concerned apply to each silo owner.

Grain SA would like to be informed of members' problems during sampling and grading. Please contact our offices for assistance.

Corné Louw, senior economist: Inputs, and Petru Fourie, research co-ordinator and production cost analyst: Grain SA

Website and social media links

International and local websites

Australian Sorghum and Canola Prices:

<http://www.sfe.com.au/content/prices/rtp15S-FUS.html>

CBOT futures price: Maize:

<http://www.cmegroup.com/trading/agricultural/grain-and-oilseed/corn.html>

CBOT futures price: Soybeans:

<http://www.cmegroup.com/trading/agricultural/grain-and-oilseed/soybean.html>

CBOT futures price: Wheat:

<http://www.cmegroup.com/trading/agricultural/grain-and-oilseed/wheat.html>

Dalian Commodity Exchange, China:

www.dce.com.cn/portal/cate?cid=1261736328100

Dow Jones Industrial General Index:

<http://www.google.com/finance?client=ob&q=INDEXDJX:DJI>

Exchange rates:

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

FAO Global Information and Early Warning System:

<http://www.fao.org/GIEWS/english/index.htm>

Gold and Brent crude oil price:

<http://www.fin24.com/Markets/>

FAO Food Price Index:

<http://www.fao.org/worldfoodsituation/food-pricesindex/en/>

Grain SA:

www.grainsa.co.za

Global GDP Forecasts/Economic forecasts:

http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?order=wbapi_data_value_2010%20wbapi_data_value%20wbapi_data_value-last&sort=asc

Maize:

<http://www.scoop.it/t/maize>

Weather Outlook:

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

Weather Outlook and Randfall data:

<http://www.rmd.co.za/>

JSE MTM price report:

<http://www.jse.co.za/DownloadFiles.aspx?RequestedNode=DownloadableDocuments/Safex/amdmtm>

SAGIS:

www.sagis.org.za

SAGL:

www.sagl.co.za

South African Grain and Oilseed Market Group:

http://www.linkedin.com/groups?gid=4617140&trk=my_groups-b-grp-v

Twitter:

<https://twitter.com/>

World Agricultural Supply and Demand Report:

<http://www.usda.gov/oce/commodity/wasde/>

Twitter

Arlan Suderman	@ArlanFF101
Hendrik Smith	@Healthy_Soils
Grain SA	@GrainSA
Wessel Lemmer	@WesselLemmer
Wandile Sihlobo	@WandileSihlobo
Agrimoney	@agrimoney
USDA	@usda
AMIS	@AMISoutlook
Tom Farms	@TomFarms
ABARES	@ABARES
Dalevest	@Dalevest_Live
BVG	@BVG_Trading

Wandile Sihlobo, economist: Industry Services, Grain SA



GRAAN SA/*GRAIN SA*

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Vision

Grain SA is acknowledged by key role players nationally and internationally to be the grain producers' only and official mouthpiece, and because of its proven expertise and leadership role in the grain industry, it is the leading supplier of industry-strategic services to South African grain producers.

Mission

Through its activities Grain SA provides industry-strategic support to grain producers in South Africa in order to promote sustainable profitability.



Management Committee

Andries Theron (vice-chairperson) [1] • Louw Steytler (chairperson) [2]
Victor Mongoato (vice-chairperson) [3] • Chris Schoonwinkel [4]
Jannie de Villiers (chief executive officer) [5] • Jaco Minnaar [6]
Cobus van Coller [7]

Grain SA's Executive per region

REGION 1

DIRKIE LOUBSER

– 082 788 5658
Buhrmannsdrif,
Coetzersdam, Kameel,
Louwna, Madibogo,
Mafikeng, Mareetsane,
Piet Plessis, Setlagole,
Stella and Vryburg



REGION 2

JOSEPH DU PLESSIS

– 082 578 7616
Amalia, Migdol and
Schweizer-Reneke



REGION 3

HANSIE VILJOEN

– 082 807 0185
Bloemhof, Christiana,
Hartswater, Jan Kemp-
dorp, Leeudoringstad,
Makwassie, Vaalharts,
Warrenton and
Wolmaransstad



REGION 4

DANIE REICHEL

– 083 271 0124
Biesiesvlei, Groot-Marico,
Lichtenburg, Rooigrond,
Vermaas and Zeerust



REGION 5

DEREK MATHEWS

– 082 878 0056
Barberspan, Delareyville
and Sannieshof



REGION 6

NIËL ROSSOUW

– 082 417 4810
Bospoort, Coligny,
Hartbeesfontein,
Klerksdorp, Orkney,
Ottosdal and Stilfontein



REGION 7

SAREL HAASBROEK

– 082 454 7410
Carletonville, Derby,
Fochville, Koster,
Krugersdorp,
Randfontein, Rysmierbult,
Swartruggens, Syferbult,
Tarlton, Ventersdorp
and Westonaria



REGION 8

JOSEPH SWANPOEL

– 083 759 2373
Brits, Dwaalboom,
Ellisras, Hammanskraal,
Koedoeskop,
Magaliesburg, Northam,
Pretoria, Rustenburg
and Thabazimbi



Continued on p. 120

Grain SA's Executive per region

Continued from p. 119

REGION 9

KALLIE SCHOEMAN

– 082 388 1001
Balfour, Balmoral,
Bronkhorstspuit,
Cullinan, Delmas,
Devon, Edenvalle, Eloff,
Greylingstad, Grootvlei,
Heidelberg, Kempton
Park, Kendal, Nigel,
Ogies, Rayton, Springs
and Sundra



REGION 10

JAN GREY

– 082 558 3847
Amersfoort,
Amsterdam, Badplaas,
Barberton, Breyten,
Carolina, Chrissiesmeer,
Davel, Ermelo, Iswepe,
Morgenzon, Perdekop,
Volksrust and
Wakkerstroom



REGION 11

BART HARMSE

– 083 327 4172
Arnot, Belfast, Blinkpan,
Hendrina, Kaapmuiden,
Komatipoort, Laersdrif,
Lydenburg, Machadodorp,
Middelburg, Nelspruit,
Ohrigstad, Steelpoort,
Stoffberg, Waterval-Boven,
Witbank, Witrivier and
Wonderfontein



REGION 12

RUDOLF FOURIE

– 082 388 1234
Bethal, Charl Cilliers,
Kinross, Kriel, Leandra,
Leslie, Platrand, Secunda,
Standerton and Trichardt



REGION 13

WILLEM GROOTHOF

– 082 938 9093
Alldays, Alma, Dendron,
Groblersdal, Haenerts-
burg, Louis Trichardt, Mar-
ble Hall, Naboomspruit,
Nylstroom, Pienaarsrivier,
Pietersburg, Platrand,
Potgietersrus, Radium,
Roedtan, Settlers,
Tuinplaas, Vaalwater and Warmbaths



REGION 14

RALF KÜSEL

– 082 944 0720
Bergville, Bloedrivier,
Colenso, Dannhauser,
Dundee, Eshowe,
Estcourt, Glencoe,
Greytown, Harding,
Kokstad, Kranskop,
Ladysmith, Matafiele,
Melmoth, Moirivier,
New Hanover, Newcastle, Normandien,
Paulpietersburg, Piet Retief, Pietermaritzburg,
Sheepmoor, Underberg, Utrecht, Vryheid and
Winterton



REGION 15

WILLIE LINDE

– 082 493 5277
Cornelia, Frankfort,
Memel, Oranjeville,
Tweeling, Villiers
and Vrede



REGION 16

LOUIS CLAASSEN

– 082 490 1721
Deneyville, Heilbron,
Koppies, Meyerton,
Parys, Sasolburg,
Vanderbijlpark,
Vereeniging and
Vredefort



REGION 17

THEO FERREIRA

– 082 775 7371
Aberfeldy, Bethlehem,
Clarens, Daniëlsrus,
Harrismith, Kestell,
Paul Roux, Slabberts,
Verkykerskop and
Warden



REGION 18

NEIL CLAASSEN

– 082 493 6295
Arlington, Lindley,
Petrus Steyn and Reitz



REGION 19

JACO BREYTENBACH

– 083 631 9559
Aliwal North, Clocolan,
Excelsior, Ficksburg,
Fouriesburg, Hobhouse,
Ladybrand, Marquard,
Senekal, Smithfield,
Thaba Nchu, Tweespruit
and Verkeerdevlei



REGION 20

ANTON BOTHA

– 083 274 1924
Bloemfontein, Boshof,
Brandfort, Bultfontein,
Dealesville, Dewetsdorp,
Hertzogville, Reddersburg
and Winburg



REGION 21

CHRIS SCHOONWINKEL

– 082 492 7308
Hoopstad and
Wesselsbron



REGION 22

JACO MINNAAR

– 083 626 7000
Allanridge, Edenville,
Hennenman, Kroonstad,
Odendaalsrus, Steynsrus,
Theunissen, Ventersburg,
Virginia and Welkom



REGION 23

COBUS VAN COLLER

– 082 561 6375
Potchefstroom,
Vierfontein and
Viljoenskroon



REGION 24

HANNES HAASBROEK

– 082 566 9765
Bothaville



Continued on p. 122

Grain SA's Executive per region

Continued from p. 121

REGION 25

JOHAN JACOBS

– 082 412 3379
Calvinia, Douglas,
Edenburg, Fauresmith,
Groblershoop, Hopetown,
Jacobsdal, Jagersfontein,
Kenhardt, Kimberley,
Koffiefontein, Luckhoff,
Petrusburg, Petrusville,
Philippolis, Prieska,
Springfontein, Trompsburg, Upington and
Vanderkloof



REGION 26

ANDRÉ KIRSTEN

– 083 226 8749
Ceres, Clanwilliam,
Hopefield, Malmesbury,
Montagu, Piketberg,
Robertson, Vanrhynsdorp,
Vredenburg, Vredendal
and Worcester



REGION 27

RICHARD KRIGE

– 082 316 3230
Bredasdorp, Caledon,
George, Heidelberg
Western Cape, Knysna,
Mossel Bay,
Oudtshoorn,
Riversdal and
Swellendam



REGION 28

MASELI LETUKA

– 072 170 9923
Eastern Free State:
Phuthadijhaba and
surrounding areas



REGION 29

DAVID MOTSHWENE

– 082 901 6378
Mpumalanga:
Bronkhorstspuit and
surrounding areas



REGION 30

RAMODISA MONAISA

– 071 974 6878
North West Province:
Mafikeng and
surrounding areas



REGION 31

ISRAEL MOTLHABANE

– 082 961 2208
Northern Free State:
Wesselsbron and
surrounding areas



Co-opted Member

FRANCOIS MINNAAR

– 082 571 5176



CHAIRPERSON:

AUDIT COMMITTEE

FANIE VAN ZYL

– 082 806 5664

Chairpersons of specialist working groups and committees



Louw Steytler
Maize



Andries Theron
Winter Cereals
Remuneration Committee
NAMPO Geboue (Pty) Ltd
Marketing Working Group



Victor Mongoato
Agricultural
Development



Theo Ferreira
Editorial Committee



Cobus van Coller
NAMPO Harvest Day
Committee
Conservation Agriculture
Working Group



Fanie van Zyl
Audit Committee



Willie Linde
Production/Input



Louis Claassen
Sorghum



Francois Minnaar
Groundnuts



Jan Grey
Sunflowers and
soybeans



Richard Krige
Barley (National Barley
Commodity Committee)



Martin Heydorn
Canola Specialist
Committee



RD Erasmus
Barley (Southern Barley
Commodity Committee)

Frikkie Maree
Barley (Northern
Barley Commodity
Committee)

Grain SA represents its members on a wider front

1. TRUSTS

1.1 MAIZE TRUST

- **White maize**
Jannie de Villiers
- **Yellow maize**
Chris Schoonwinkel

1.2 OIL AND PROTEIN SEEDS DEVELOPMENT TRUST (OPDT)

- **Commercial producer**
Jozeph du Plessis (Chief Delegate)
Jan Grey (Alternate)
- **Developing producer**
Ramodisa Monaisa (Chief Delegate)
Israel Motlhabane (Alternate)
**Nominated December 2015*

1.3 SORGHUM TRUST

Willem Groothof (Producers)
Louis Claassen (Processors)

1.4 WINTER CEREAL TRUST

- **Wheat**
Andries Theron
- **Barley**
Jannie de Villiers

1.5 SASOL RESEARCH TRUST

Jaco Breytenbach
Jannie de Villiers

2. FORUMS

2.1 OILSEED FORUMS

- **Sunflower and Soybean Forums**
Hannes Haasbroek (Sunflowers)
Jan Grey (Soybeans)
Joseph Swanepoel (Alternate)
- **Groundnut Forum**
Francois Minnaar (Chief Delegate)
Dirkie Loubser (Alternate)

2.2 WHEAT FORUM

Andries Theron
Jannie de Villiers

- #### **2.2.1 Steering Committee**
- Jannie de Villiers

2.3 SORGHUM FORUM

Louis Claassen (Chief Delegate)

2.4 MAIZE FORUM

Louw Steytler
Jannie de Villiers

- 2.4.1 Steering Committee of Maize Forum**
Jannie de Villiers (Chief Delegate)
Marinda Visser (Alternate)

3. ADVISORY COMMITTEES/TECHNICAL COMMITTEES (RESEARCH)

3.1 OILSEED ADVISORY COMMITTEE (OAC) FOR OILSEED TRUST

- **Commercial producer**
Jan Grey (Chief Delegate)
Joseph du Plessis (Alternate)
- **Developing producer**
Israel Motlhabane (Chief Delegate)
Ramodisa Monaisa (Alternate)
*Nominated December 2015

3.2 TECHNICAL COMMITTEES WINTER CEREALS FOR WINTER CEREAL TRUST

3.2.1 Wheat technical committee

Andries Theron
Richard Krige

3.2.2 Barley technical committee

RD Erasmus
Frikkie Maree

3.2.3 SABBI (Barley Research)

RD Erasmus – Southern production regions
Frikkie Maree – Northern production regions

4. AGRI SA

4.1 GENERAL COUNCIL (have 11 votes)

Louw Steytler
Andries Theron
Victor Mongoato
Jannie de Villiers

4.2 COMMODITY CHAMBER

Louw Steytler
Jaco Minnaar
Chris Schoonwinkel
Jannie de Villiers

4.3 FUNCTIONAL COMMITTEES

4.3.1 Natural resources

Johan Jacobs

4.3.2 Labour and social

Andries Theron
Derek Mathews

4.3.3 Agricultural Development Committee

Louw Steytler
Victor Mongoato
Derek Mathews
Jannie de Villiers

4.3.4 Commercial

Louw Steytler
Jaco Minnaar
Chris Schoonwinkel

4.3.5 Law and order

Maseli Letuka

4.3.6 Image building

Alzena Gomes

Continued on p. 126

GRAIN SA represents its members on a wider front

Continued from p. 125

5. PROVINCIAL AGRICULTURAL UNIONS

5.1 FREE STATE AGRICULTURE

General Council

Anton Botha (Chief Delegate)

Theo Ferreira (Alternate)

5.2 KWAZULU-NATAL AGRICULTURAL UNION (KWANALU)

General Council

Ralf Küssel (Chief Delegate)

5.3 MPUMALANGA AGRICULTURE

General Council

Rudolf Fourie (Chief Delegate)

Bart Harmse (Alternate)

5.4 TLU SA

General Council

Joseph Swanepoel (Chief Delegate)

5.5 AGRI NORTH WEST

General Council

Derek Mathews (Chief Delegate)

Jozeph du Plessis (Alternate)

Dirkie Loubser (Alternate)

5.6 AGRI NORTHERN CAPE

Executive Committee

Johan Jacobs

5.7 AGRI WESTERN CAPE

Commodity Chamber

Richard Krige (Chief Delegate)

André Kirsten (Alternate)

5.8 AGRI LIMPOPO

General Council

Willem Groothof

5.9 AGRI EASTERN CAPE

General Council

Richard Krige (Chief Delegate)

André Kirsten (Alternate)

5.10 AGRI GAUTENG

General Council

Sarel Haasbroek

6. OTHER COMMITTEES AND BOARDS OF DIRECTORS

6.1 SOY PRF WORKING GROUP (at direct invitation of PRF, not nominations by Grain SA)

Andries Theron

6.2 CANOLA PRF WORKING GROUP

Martin Heydorn (Chairperson: Western Cape Canola
Working Group)

6.3 SAGL

Derek Mathews (Wheat)

Marinda Visser (Maize)

Hannes Haasbroek (Soybeans)

Jannie de Villiers (Alternate Director)

6.4 SAFEX ADVISORY COMMITTEE (JSE)

Chris Schoonwinkel (Chief Delegate)

Jaco Minnaar (Alternate 1)

Jan Grey (Alternate 2)

Grain SA membership for economic welfare

Grain SA is an autonomous and voluntary commodity organisation acting collectively in the interests of the economic welfare of the grain producers of South Africa, and is the combined voice of grain producers to address commodity matters and issues with the government and other role-players in the industry.

Who can become a member of Grain SA?

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

What does membership of Grain SA offer me as producer?

The ten-point plan for complete peace of mind

1. Obtain all possible information on your production costs and space, as well as on your input and production environment.
2. Remain up to date on the availability, quality and price of inputs.
3. Obtain information on the most recent research, technological development and production practices that will ensure effective and profitable production.
4. Know your policy environment and be aware of changes with respect to legislation.
5. Obtain information on the local and international market and trade environments.
6. Be up to date at all times on bilateral and multilateral trade agreements.
7. Become part of the NAMPO Harvest Day, and familiarise yourself with the most recent agricultural products, technology and services. Yes, visit all input providers on the same premises.
8. Subscribe to the magazine, *SA Graan/Grain*, which reports objectively on current affairs and provides information strategic to the industry on a monthly basis.
9. Make sure that you are part of the commercial grain producer's only and official mouthpiece, where you are represented by proven experts.
10. By becoming a member of Grain SA you also gain access to Momentum's financial welfare solution for members and their farm workers.

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Grain SA membership for economic welfare

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How is membership obtained?

Any producer who produces grain may obtain membership by merely completing the authorisation form that is available from Grain SA. As soon as Grain SA has received the authorisation form, it is handed to the collection agent concerned to deduct the levy and the producer is registered on the system as a member.

What is the current levy per ton?

The current levies (excluding VAT) per ton are as follows: Maize: R2,50, wheat: R3,00, sunflowers: R5,00, groundnuts: R10,00, soybeans: R5,00, sorghum: R2,50, canola: R4,00 and barley: R3,00.

Full payment: A minimum of R1 000 (excluding VAT) is prescribed for full membership.

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

How is the levy collected?

The commodity levy is collected in two ways:

Collection agents

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





Direct deposit

If a member delivers to an agricultural company or grain off-taker that does not collect and pay over the commodity levy, the member can pay the commodity levy to Grain SA himself by means of a cheque, a direct deposit at the bank or an electronic transfer. Members who make direct or electronic deposits must email the proof of payment plus the member's details to Patricia Mahlatsi at patricia@grainsa.co.za.

Grain SA's bank details are as follows:

Account holder: Grain SA

Bank: Absa

Account number: 790 810 007

Branch code: 334136 (632005 electronically)

Member involvement

Member involvement is the key to a dynamic organisation, and Grain SA invites every member to participate actively in the activities of the organisation, among other things by regularly attending branch and regional meetings. At these meetings members are given direct feedback on the activities of the organisation. Remember: It is your organisation and we want to be of service to you.

'n Eerste in ons bedryf finansiële welstand vir lede van Graan SA en hul plaaswerkers

Graan SA en Momentum het met 'n opwindende nuwe strategiese vennootskap saamgespan om 'n innoverende finansiële welstandsplan uitsluitlik vir lede en hul plaaswerkers beskikbaar te stel. Hierdie plan stel werkgewers in staat om in sleutelbehoefes van plaaswerkers in verskillende salarisgroepe te voorsien.

Onlangse navorsing deur Momentum het die volgende sleutelbehoefes van plaaswerkers geïdentifiseer: begrafnisvoordele, opvoedingsvoordele vir kinders, hospitaal-kontantvoordele, lewens-en ongeskiktheidsdekking en spaarplanne.

Die talle voordele van Momentum se benadering rakende die finansiële welstand van die onderneming sal Graan SA se lede die gemoedsrus bied dat hul werknemers gerus kan wees oor hul sleutelbehoefes en bekommernisse.

Plus:

- die planne is deursigtig, bekostigbaar, verstaanbaar, bekombaar en bruikbaar.
- die gemak en eenvoud van administrasie verseker dat plaaswerkers die maksimum voordele teen hoogs mededingende premies kan kry.

Kyk gerus na die voordele wat **vir so min as R29.00 per maand** aangebied word!



GRAAN SA se voordeelopsies vir lede en plaaswerkers

Premiekoste per werknemer per maand	Opsie 1	Opsie 2	Opsie 3	Opsie 4	Opsie 5	Opsie 6	Opsie 7	Opsie 8
	R 29	R 55	R 110	R 176	R 216	R 289	R 402	R 578
<p>Begrafnisdekking</p> <p>Hierdie bedrag word uitbetaal by die afsterwe van 'n werknemer, sy/haar lewensmaat (dekking vir tot 2 eggenote). 'n Glyskaal sal vir die werknemer se kinders geld (dekking vir tot 4 kinders). Indien die werknemer as gevolg van 'n ongeluk sterf, sal die uitbetaalde begrafnisvoordele verdubbel</p> <p>Opbetaalde begrafnisvoordeel</p> <p>– Werknemer sal by aftrede, of by sy/haar afsterwe ophou om premies te betaal, maar hy/sy en sy/haar familie sal dieselfde begrafnisvoordele lewenslank geniet.</p>	R 10 000	R 10 000	R 20 000	R 10 000	R 10 000	R 15 000	R 20 000	R 30 000
<p>Onderrigvoordeel</p> <p>By die afsterwe van 'n werknemer sal sy/haar kinders 'n enkelbedrag as onderrigvoordeel per kind ontvang, wat aan die kinders se voog betaal sal word (dekking vir tot 4 kinders).</p>	Nul	Nul	Nul	Nul	R 10 000 per kind	R 10 000 per kind	R 10 000 per kind	R 15 000 per kind
<p>Hospitaal-kontantvoordeel</p> <p>Indien 'n werknemer vir meer as 2 dae gehospitaliseer word, sal ons 'n bedrag uitbetaal vir elke dag dat hy/sy in die hospitaal was, tot 'n maksimum van 180 dae per kalenderjaar. Indien hospitalisasie die gevolg van 'n chroniese toestand is, sal ons tot 'n maksimum van 25 dae per kalenderjaar uitbetaal</p>	Nul	Nul	Nul	R 200 per dag	R 250 per dag	R 300 per dag	R 350 per dag	R 500 per dag
<p>Lewensdekking</p> <p>Indien 'n werknemer sterf, sal ons die bedrae soos getoon per opsie aan sy/haar begunstigdes uitbetaal.</p>	Nul	Nul	Nul	Nul	Nul	R 15 000	R 20 000	R 25 000
<p>Ongeskiktheidsdekking</p> <p>Hierdie voordeel betaal 'n 100%-enkelbedrag aan u werknemer uit indien hy/sy nie in staat is om voort te gaan met sy/haar werk, of die meeste van die take wat die werk behels nie. Afhangende of u werknemer matig of ernstig gestrem is, sal 'n persentasiebetaling (van 25%, 50% of 100%) van toepassing wees.</p>	Nul	Nul	Nul	Nul	Nul	R 15 000	R 20 000	R 25 000
<p>Effektetrust-spaarrekening</p> <p>Die volgende bedrae sal in 'n effektetrust-spaarrekening belê word as 'n vorm van aftreessaargeld, waaruit u werknemers voordeel sal trek (beleggingsgelde van 1.06% per jaar).</p>	Nul	Nul	Nul	R 75	R 75	R 85	R 150	R 220

U sal volle besonderhede van die 8 voordeelopsies saam met die kwotasieversoekvorms op Graan SA se webtuiste, www.grainsa.co.za, kry.

Alternatiewelik,

Kontak

Momentum se toegewyde oproepsentrum – 0860 333 334

Faks: 012 684 5813 E-Pos: commercialproduct@momentum.co.za

Momentum, 'n afdeling van MMI Groep Beperk, 'n gemagtigde finansiële dienste- en kredietverskaffer

GRAIN SA CONTACT PERSONS

– ready to help

Management team



Jannie de Villiers (third from left) and the management team of Grain SA (from left):

Jane McPherson (programme manager: Farmer Development) – jane@grainsa.co.za

Nico Vermaak (manager: Corporate Services) – nicov@grainsa.co.za

Jannie de Villiers (CEO) – jannie@grainsa.co.za

Dr Marinda Visser (manager: Research and Liaison with Authorities) – marinda@grainsa.co.za

Christa Herbst (manager: Financial Services) – christa.herbst@grainsa.co.za

Industry Specialists



The agricultural economists and technical specialists of Grain SA are (from left):

Corné Louw (senior economist: Industry Services) – corne@grainsa.co.za

Dr Hendrik Smith (conservation agriculture facilitator) – hendrik.smith@grainsa.co.za

Dr Marinda Visser (manager: Research and Liaison with Authorities:) – marinda@grainsa.co.za

Petru Fourie (research co-ordinator and production cost analyst) – petru@grainsa.co.za

Landi Kruger (data science co-ordinator) – landi@grainsa.co.za

Wandile Sihlobo (economist: Market Research, Inputs and Production) – wandile.sihlobo@grainsa.co.za

Member Marketing/communication

NAMPO Harvest Day



Member Marketing and communication are handled by the following team (from left):

Dirk Kotze (member marketing and communication officer) – dirk@grainsa.co.za
Toit Wessels (member marketing and communication officer) – toit@grainsa.co.za
Alzena Gomes (public relations officer) – alzena.gomes@grainsa.co.za

Johan Loxton
(manager:
Commercial Services)
– johan@grainsa.co.za

Farmer Development



Jane McPherson (third from left) and the Farmer Development team of Grain SA are (from left):

Willie Kotzé (operations manager: Farmer Development Programme) – willie@grainsa.co.za
Danie van den Berg (development co-ordinator) – danie@grainsa.co.za
Jane McPherson (programme manager: Farmer Development) – jane@grainsa.co.za
Jerry Mthombothi (development co-ordinator) – jerry@grainsa.co.za
Ian Househam (development co-ordinator) – ian@grainsa.co.za



The Farmer Development team of Grain SA are (from left):

Du Toit van der Westhuizen (development co-ordinator) – dutoit@grainsa.co.za
Graeme Engelbrecht (development co-ordinator) – graeme@grainsa.co.za
Jurie Mentz (development co-ordinator) – jurie@grainsa.co.za
Johan Kriel (development co-ordinator) – johank@grainsa.co.za
Julius Motsoeneng (development co-ordinator) – julius@grainsa.co.za
Liana Stroebel (development co-ordinator) – liana@grainsa.co.za

Sustainable production on every piece of arable South African land

The Farmer Development Programme's goal is to ensure sustainable production on every hectare of arable land in South Africa – irrespective of the size of the land. To this end training and on-farm support is given to developing farmers.

The programme, which was introduced in 2000, establishes a platform for healthy and sustainable transformation on a broad base. Through funding by the Maize Trust, the Oil and Protein Seeds Development Trust, the Winter Cereal Trust, the Sorghum Trust, the ARC and the AgriSETA, the programme has made a huge difference to the economic viability of developing farmers.

The programme is proud to have 6 795 black farmers in its 126 study groups and ten branches (Lichtenburg, Taung, Nelspruit, Bloemfontein, Ladybrand, Louwsburg, Kokstad, Maclear, Mthatha and Paarl). There are 115 new era commercial farmers (producing more than 250 tons of grain), 1 085 smallholder farmers (from 10 ha of land to 250 tons of production) as well as 5 600 subsistence farmers (on less than 10 ha of land).

In our efforts to develop knowledge of the farmers at all levels, we continue to support the farmers through study group meetings, demonstration trials and farmers days, the Farmer of the Year competition, the advanced farmer programme, training courses, and a monthly newsletter (*Pula Imvula*). It is our belief that investment in the people is what is going to bring the sustainability to the process of agricultural transformation.

A prosperous and united agricultural sector is within our reach. Sustainable production on each hectare is quite possible if we address the real barriers that we are facing. Land tenure and soil rectification, extension support, tractors and mechanisation, production loans, knowledge and mentoring – we have the solutions to the problems and if we could unite the sector, we could build the agricultural dream so many of us are dreaming!

Enquiries about the programme can be directed to the co-ordinator in your area:

Danie van den Berg	Free State (Bloemfontein)	071 675 5497
Johan Kriel	Free State (Ladybrand)	079 497 4294
Jerry Mthombothi	Mpumalanga (Nelspruit)	084 604 0549
Jurie Mentz	KwaZulu-Natal/Mpumalanga (Louwsburg)	082 354 5749
Graeme Engelbrecht	KwaZulu-Natal (Dundee)	084 582 1697
Ian Househam	Eastern Cape (Kokstad)	078 791 1004
Vusi Ngesi	Eastern Cape (Maclear)	079 034 4843
Lawrence Luthango	Eastern Cape (Mthatha)	076 674 0915
Liana Stroebel	Western Cape (Paarl)	084 264 1422
Du Toit van der Westhuizen	North West (Lichtenburg)	082 877 6749
Julius Motsoeneng	North West (Taung)	076 182 7889
Willie Kotzé	Operations manager: Grain SA Farmer Development Programme	082 535 5250

Scholars made aware of agriculture as career choice

We are privileged to receive funding from the Maize Trust, the Winter Cereal Trust and the AgriSETA to implement a schools programme. In our modern society, children are no longer aware of agriculture's value as a source of food, fibre and energy as well as for career choices. Our message to them is: 'Without agriculture, you would be naked, hungry and thirsty.'

Enquiries about the programme can be directed to Willie Kotzé (operations manager: Grain SA Farmer Development Programme) on 082 535 5250.

Grain producers' trade magazine

It is important to Grain SA to communicate with its members. SA Graan/Grain, the official magazine of the organisation, is therefore mailed directly to grain producers and role-players in agriculture every month. Various agricultural colleges, government institutions, universities and libraries also receive copies of the semi-commercial magazine.

The glossy magazine focuses on news on grain commodities and industry-related matters like input/production affairs, agricultural research (in collaboration with the ARC grain institutes), marketing and current grain topics.

The magazine furthermore provides an effective platform for advertisers, as well as a special focus every month. Advertisers are offered the opportunity to share information on their products with readers.

Online

SA Graan/Grain is available as an online version in a paged book format. Please visit <http://www.grainsa.co.za/sagrain>. The cover of the newest edition appears here, and some of the articles published in this edition can be read online here. This book contains exactly the same content as the printed format.

Editorial committee

The magazine appears under the auspices of the Grain SA Editorial Committee – a working committee of Grain SA's Executive that convenes on a monthly basis and assesses the magazine. The committee comprises producer members, representatives from the ARC-Grain Crops Institute, the ARC-Small Grain Institute and staff of Grain SA. The committee ensures that the content remains relevant to readers, advertisers and the grain industry as a whole.

Meet the core editorial staff:



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GRAIN SA'S

NAMPO HARVEST

DAY

17 - 20 May 2016



JCB Landboutuoerusting



NAVRAE: Alfred Andrag ☎ 082 824 1214 📠 021 950 4270 📞 919 8641 📧 alfred.andrag@agrigo.co.za

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