

PULA INVULA

Producers are the backbone of our nation

Grain SA magazine for
developing producers

READ INSIDE:

- 3 > Current price scenario
in maize production
planning
- 6 > Consider a spray rig for
weed control
- 8 > Time to check for soil
compaction

FARMING WAS THE VERY FIRST OCCUPATION IN THE WORLD AND IT WAS AN INSTRUCTION FROM GOD. IT IS ESSENTIAL FOR LIFE. THEREFORE, IT IS IMPORTANT THAT AS PRODUCERS WE VIEW OUR JOB AS A VERY ESSENTIAL AND IMPORTANT JOB.

We must not merely have a focus on making money and increasing production, but rather have a focus on producing quality crops and food that will provide the nourishment for life and health that others need.

How do producers contribute to the economy?

- They make a significant contribution to the economy and the national budget.
- Producers together are a significant employer in our country with such high unemployment levels.
- Producers grow high-quality, healthy food and contribute to national food security.
- Producers around the country make significant investments in their local communities and are essential to the economic vitality of both their

hometowns and the nation.

- As stewards of the land, producers work hard to protect the soil, air, water and biodiversity to ensure the soil will be able to produce food for generations to come.
- The producer is self-sufficient, productive, independent, hard-working, community-spirited and accountable. The producer manufactures maize, sunflower and sugar from sunshine!

Unfortunately, producers, like many other businesses, are suffering from the dramatic economic downturn.

With ever increasing operating costs and now declining prices for their agricultural products, many producers and cattle ranchers will find it difficult or impossible to keep up with their regularly scheduled farm loan payments.

At the same time, the availability of affordable, long-term credit is also uncertain, which poses even more threats to every producer's business operations.

The harsh reality is that producers are forced to depend on loans to get them through – to pay for



2



6

Producers are the backbone of our nation



Mme Jane says...

From time to time we have to stop and ask ourselves what we are doing. In trying to get to a clear answer, we need also to say what we are not doing. Let's start with what we are not doing:

- We are not using white contractors to farm on black land.
- We are not "farming for" people.
- We are not trying to give people farming opportunities who had opportunities in the past.
- We are not "window dressing".
- We are not trying to get BEE score card points for those who buy these products.
- We are not trying to get BEE score card points for those who supply inputs.

What are we doing? We are:

- Developing black producers – independent, sustainable black producers.
- Training black producers to understand the reasons for what they are doing.
- Encouraging producers to use the natural resources optimally.
- Showing black producers how to care for the land they are using.
- Assisting people with what they have, to generate an income for themselves and to produce food for themselves, their community and our nation.
- Transforming the face of agriculture – from a white dominated industry to one with true representation by all cultural and ethnic groups.
- Helping people who have access to land – communal land, or hired land, or own land (to use the land more sustainably and profitably).
- Trying to work with all government departments to coordinate the assistance given to producers.
- Making plans so that producers can acquire machinery and equipment.
- Making plans to access grants from the departments.

I am often disappointed when I hear that people are "farming for" black producers. Some individuals/organisations are using black land for their own gain and calling this "producer development". If you are a white producer using land that belongs to a black producer – hire it, pay for it and acknowledge that you are hiring land and farming for yourself. Please do not pretend to be helping producers.

the seed and feed and other inputs needed to get things in the ground and growing.

But because of instability in market prices for their products and threats from weather-related disasters, the security of that initial investment isn't guaranteed. Traditional money lenders have become very cautious and tight fisted as a result!

Consequently we must continue to call upon the government of the day to assist producers with a more favourable, structured and secure system of production loans.

Volatile market prices for commodity crops and rising production costs, including fertiliser, seeds, feed and other farm inputs, will continue to put producers in a tough situation financially as they have little control over the supply or demand of their product. When market prices for the producers produce fall it is not always reflected in food prices on the shop shelf – this raises concerns that grain buyers and others are profiting at the expense of both producers and consumers.

How will South Africans be affected?

If producers lose their business and their homes and if new producers are not able to enter the industry this will affect South Africans. Producers are the backbone of the nation and the first rung on the economic ladder. When farms fail, main street businesses fail. The opposite is also true – when farms thrive, main street businesses and local communities thrive.

Producers are creating real wealth, producing real value, growing from seeds and sunlight a product that nourishes us both physically and economically. Supporting a diverse decentralised family farming is necessary to the stability and vitality of our country. If we lose even one producer or make it increasingly difficult for new or beginning producers to get on the land, we put our environment, our food security and our local economies at risk.

JENNY MATHEWS, CHAIRMAN OF THE GRAIN SA FARMER DEVELOPMENT PROGRAMME



Does a producer always plough and never sow? Is he forever harrowing the soil and never planting it? Does he not finally plant his many kinds of grain, each in its own section of land? He knows just what to do for God has made him see and understand... The Lord Almighty is a wonderful teacher and he gives the producer wisdom.

Isaiah 28 verse 23 - 29.

Current price scenario in maize production planning

PREVIOUS ARTICLES IN THE PULA/IMVULA HIGHLIGHTED THE STEPS REQUIRED IN DECIDING WHICH MIX OF SUMMER CROPS ARE SUITABLE FOR YOUR FARM, TAKING RESOURCE PLANNING, SOIL POTENTIAL, CROP ROTATION PLANNING AND FUTURE MARKET PRICES INTO ACCOUNT. THIS MONTHS PULA/IMVULA WILL COVER A SERIES OF ARTICLES RELEVANT TO THOSE PRODUCERS WHO HAVE DECIDED TO INCLUDE MAIZE IN THE COMING SUMMER CROP PRODUCTION SEASON.

Future prices for yellow and white maize prices hardened slightly during August 2011 with a future price scenario of R1 840 for yellow maize and white maize of R1 815 for delivery during July 2012. We can thus work on about R1 615 per ton of maize in the producer's pockets at a transport differential of R215 to R225 per ton.

The net value realised for maize that could be theoretically exported is at about R1 717 per ton. This is known as the indicative export parity price. The net value realised to import maize is about R2 894 per ton

landed at Randfontein. This is known as the indicative import parity price. We can thus concur that the current and future inland price is based on the export parity value.

This indicates that there is still a surplus of maize in our internal market and that there is a positive sentiment concerning the availability of maize for next season. The price determination takes all the production factors into account such as climatic and soil conditions, consumer demand, stock on hand and maize still to be delivered, the rand/dollar exchange rates, overseas production conditions and local interest rates on borrowed capital, amongst others, into account.

The quality of the last maize deliveries to silo's from producers might be lower due to the excess rains received in the harvesting season and could also cause spot prices for good quality maize to rise. Keep in mind that all these factors can change by the time maize is harvested next year during July 2012.



ARTICLE SUBMITTED BY A RETIRED PRODUCER



Control weeds in maize effectively

IT IS ALWAYS IMPORTANT TO IDENTIFY THE SPECIFIC WEEDS PROBLEMS ON YOUR OWN FARM. CULTIVATION PRACTICES, CHEMICAL WEED CONTROL PRACTICES AND CROP ROTATIONS DIFFER IN EVERY DISTRICT AND ON EACH FARM. THE WEED PROBLEMS ON YOUR FARM MIGHT DIFFER RADICALLY FROM YOUR NEIGHBOURS.

Always assess the type of weeds on your farm and apply the correct combinations of appropriate herbicides. Please see **table 1** below for some of the options and certified combinations that are available in South Africa for the control of weeds in maize.

Active ingredients

The chemicals and chemical combinations available are made up of some main principal active ingredients which control either annual grasses or annual broad leafed weeds. The active ingredients are the specific chemical components that kill the weeds by interfering or stopping in the biochemical processes that enable the weeds to capture sunlight and to continue growing and to ultimately reproduce.

The chemicals are thus combined if the producer's lands have both a grass and a broadleaf problem. In some fortunate cases due to the correct crop rotation and weed control practices there might only be a potential annual broadleaf weed problem in your maize lands. It would thus be a waste of money to spray grasses. An accurate assessment of the problem will enable you to optimise and minimise your expenditure on weed control.

Clay content of your soil

It is useful to know from your soil test results the clay content of the top soils on each land on your farm. The application rates of chemicals for effective weed control rise rapidly as the clay content of the soil rises. This happens because the clay colloid absorbs some of the active ingredients applied and thus limits the chemical available that the plant can take up from the soil particle water interface.

It is foolish not to apply the correct recommended chemical concentrations per hectare to save on the immediate costs per hectare. An ineffective weed kill will result in high crop yield losses this season. Applying a smaller than recommended dose of chemical results in some weeds not being killed. Over many plant generations this, "resistance to dying" results in weed plants that can survive an application of up to a hundred times more active herbicidal ingredients than would control weeds now.

It is thus in the interest of the whole farming community that recommended applications be followed religiously. It costs an enormous amount in research and development of new chemicals for effective weed control should resistance develop.

To illustrate the extra chemical that must be applied taking the clay content into account please see recommended application of acetochlor that controls mainly annual grasses with regard to soil clay content. Acetochlor is usually used in combination with a safener. This is an ingredient which in the combination with acetochlor prevents this chemical from killing the maize plant which, as must be kept in mind, is also a grass.

Pre - E or Pre-emergence means spraying of the chemicals on a soil or minimum tillage soil surface after planting but before the plants have emerged through the soil surface.

The higher amounts of dosage per hectare would be used in cases where there are particular persistent heavy infestations of certain types of annual grasses in certain lands.

The cost per hectare just for the chemicals would vary from R97,50 per hectare for the sandy soil (0% - 10% clay content) to R150 for the high clay soil (41% - 55% clay content).

A maize crop with a potential of 4,5 tons/ha would be valued at about R7 200 per hectare. It is thus very short sighted and not advisable to save R60 a hectare keeping in mind all the current and implied future potential problems that could arise. Again, assess the problem together with your chemical practitioner and do the control properly.

Table 1: Recommended applications

Chemical	Active ingredient g/l	% Clay	Dosage in litres/ha	Application timing	Weed control type
Acetochlor (+ Safener)	840g/litre	0 - 10	0,75 - 1,00 l/ha	Pre-emergence of crop	Mainly annual grasses
		11 - 20	1,00 - 1,30 l/ha	Pre - E	
		21 - 30	1,30 - 1,65 l/ha	Pre - E	
		31 - 40	1,65 - 1,80 l/ha	Pre - E	
		41 - 55	2,0 l/ha	Pre - E	

Table 2: Mixtures available in the market

Chemical – active ingredient	Formulation in grams per litre	Dosage range depending on clay content	Timing of application	Weeds controlled
Acetochlor	750/900 g/l	0,9 to 2,7 l/ha	Pre-emergence.	Mainly annual grasses.
Acetochlor (+ safener)	700/840 g/l	0,7 to 2,7 l/ha	Pre-emergence.	Mainly annual grasses.
Actochlor /atrazine/propazine	96/202/202 g/l	3,25 to 7 l/ha	Pre-emergence. Apply on a well prepared seedbed.	Annual broad-leaved weeds and certain grasses.
Acetochlor/atrazine/simazine (+ safener)	160/165/165 g/l	3,25 to 7,5 l/ha	Pre-emergence. Apply immediately on a well prepared seedbed.	Annual broad-leaved weeds and certain grasses.
Acetochlor/atrazine terbutylazine (with and without safeners). Many combinations	125/187,5/187,5 g/l	2,75 to 5 l/ha	Pre-emergence.	Annual broad-leaved weeds and certain grasses.
Alachlor	480 g/l	3,2 to 4 l/ha	Pre-emergence. Apply immediately on a well prepared seedbed. Not later than two days.	Mainly annual grasses.
Alachlor/atrazine Many combinations	336/144 g/l	5,5 l/ha	Pre-emergence. Apply immediately on a well prepared seedbed. Not on soils with less than 16% clay.	Annual broad-leaved weeds and certain grasses.
Ametryn	500 g/l	2,5 to 3 l/ha	Post-emergence. KwaZulu-Natal only.	Annual broad-leaved weeds and certain grasses.
Atrazine Many combinations with many other active ingredients	500 g/l	2,5 to 5 l/ha	Apply to actively growing weeds.	Mainly annual broad-leaved weeds.
Atrazine/cyanazine	250/250 g/l	2,25 to 4,25 l/ha	Pre E or early post-emergence.	Mainly annual broad-leaved weeds.
Bromoxynil	225 g/l	1,5 to 2 l/ha	Apply when weeds are fully emerged.	Mainly annual broad-leaved weeds.
2-4D (dimethylamine salt)	480 g/l	2,7 to 5,4 l/ha	Apply 5 - 6 days after planting on moist seedbed.	Mainly annual broad-leaved weeds.
EPTC (+ safener)	720 g/l	2 to 4 l/ha	Apply on a well prepared seedbed and incorporate into the soil.	Mainly annual grasses, yellow and purple nutsedge.
Metolchlor (+ safener)	915 g/l	0,75 l/ha	Pre-emergence. Apply on a well prepared seedbed within three days after planting.	Mainly annual grasses, yellow nutsedge.

Consider a spray rig for weed control

AFTER PLANTING DURING THE OCTOBER TO MID DECEMBER 2010 PLANTING SEASON, MOST MAIZE PRODUCTION AREAS RECEIVED A HIGH RAINFALL AT SHORT INTERVALS. ON MANY FARMS THE WET CONDITIONS PREVENTED ANY EFFECTIVE MECHANICAL INTER ROW WEED CONTROL THROUGHOUT THE SEASON.

Producers who did not use chemical weed control and did not spray before plant emergence or could not apply chemicals after emergence are likely to have a large weed problem this coming season. Weed plants that are able to set seed result in millions of seeds that would have been distributed in the lands prior to this coming summer production season.

Minimum till producers also experienced major weed control problems in lands if the equipment could not be used for spraying the planned weed control programme for weeds before and/or at planting. It is thus vital to inspect the lands to be planted so that the distribution pattern of potential problem weeds can be identified. The correct chemical and spray programme, together with your weed control agent or consultant can then be planned.

With the wet conditions prevailing and rain already received during August it is likely that wet conditions will hamper both mechanical cultivation of weeds and your chemical control spraying operations again this year. It would thus be recommended that if you have been relying on mechanical weed control only, that a decision to purchase a suitable spray rig be considered.

Types of spray rigs

Three point rigs

Many different makes of spray rigs, suitable for mounting on your tractors three point, including the tanks of 600 litres and 1 000 litres and booms of from 12 metres to 16 metres are available on the local market. Units with

tanks of 1 000 litres should only be used on tractors that have a three point lift capacity of 1,5 tons or more.

The locally manufactured units are competitively priced and spares are freely available during the season. If you purchase an imported unit make sure that the agent can guarantee the availability of replacement pumps or pump diaphragms and keep a range of spray nozzles. Each application requires specific nozzles that have different spray patterns and apertures. The pressure settings for each nozzle are very important to ensure that the correct droplet size for a particular application is achieved for optimum effectiveness of the herbicides being applied.

Trailed units

If you are able to purchase a trailed unit this has some advantages over a three point mounted unit. The wear and tear on the hydraulic three point system, is eliminated and the tractor and spray rig form a balanced mechanical unit resulting in a higher efficiency and less soil compaction. The 2 000 litre units also enable more land to be sprayed before refilling a tank mix. Keep in mind the ease of adjusting the wheel spacing on the trailed unit to be set up together with the tractor for your planter row spacing and easy access to the controls from the operator's seat.

The usual minimum water application for particular tank mix is about 200 litres per hectare to ensure proper spray cover of the soil surface. A three point tank with a capacity of 600 litres will thus cover three hectares before filling and mixing of chemicals for the next application.

When planning the spraying operation take into consideration, area to be sprayed, time constraints, availability and access to suitable water, number of tractors and equipment available including a trailer with at least a 5 000 litre tank capacity. It is also advisable to equip the transfer water trailer with a pump with a large enough capacity so that the three point tank or trailed tank can be filled quickly.



Control weeds in maize effectively


Timing of application

It is also important to know what chemicals you are going to use in order to be able to coordinate when the spray rig should be available in the season. The weed control applications can be made before the plants have emerged after planting, shortly after the plants have emerged from the soil or at or shortly after planting on a well prepared soil surface. A well prepared planting surface means a soil surface with a fine tilth free of organic matter that would absorb some of the applied chemicals.

For the applications at or shortly after planting the producer can decide to rig up his planter so that the chemicals are sprayed in a broad swath behind the planter row or on a limited segment on each row. Alternatively the spray rig can be put into the land very shortly after the planter has made a pass in the land. More time is available to do the post emergence spraying operation.

The method of choice also depends largely on the tractor and equipment capacity owned or hired by the individual producer. Planning however must take into account many factors including the possibility that you will possibly only have a small window of opportunity to complete your spraying operation due to an above average rainfall.

A summary of some of the mixtures available in the market are shown in **table 2** on page five. As a producer or farm manager become familiar with the main chemicals used and the concentrations of the active ingredients in each. There are many brands with catchy names in the market that contain the same or similar mix of active ingredients. When comparing the prices and effectiveness of various products work out the price per gram of active ingredients per litre so as to compare the costs on a fair basis.

As can be realised from these few examples it is virtually impossible for a producer to keep up with all the new chemical combinations. In addition the producer must make an assessment as to which is the best to apply at the correct rate on a particular soil in a land with unique weed problems. Always consult a professional person in the herbicide field. 


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Good planning and maintenance of all the equipment should be carefully done so as to minimise problems in the lands in the planting season. Profitable modern crop farming can hardly be achieved without a good knowledge of chemical weed control and the effective application thereof by the correct spraying equipment. Always use an experienced agent or consultant to help with the planning and application of herbicides and insecticides.

If you do not have enough available tractor power or the capital required to equip yourself consider using a contractor with a larger spray rig. Quotes from contractors range between R65 and R100 per hectare plus diesel. A large area of land can be covered during the day and night with the assistance of GPS systems. However, make sure before entering any arrangement that the contractor is able to arrive on time when needed and that each party is very clear as to what equipment will be required and supplied by each party. Some contractors do not have their own trailed transfer tanks or trucks. If you cannot match the volume water required by the contractor's spray rig the loss in time and efficiency will lead to conflict and frustrate both parties.

The cost of acquiring your own equipment and the convenience of being able to spray when you require per hectare must be weighed up against the total cost of having the spraying done by a contractor. An additional advantage is that most contractors are knowledgeable about the chemicals and tank mixes to be used, or work closely with herbicide application practitioners.

It is in your interest to monitor any spraying operation at all times. It is also advisable to talk to several chemical companies to compare the applied cost of chemicals per hectare and to assess the level of service that will be provided. Remember that any chemical supplier is very busy in the season and might not be able to give you enough attention with regards to assistance with tank mixing of chemicals and adjuvants and monitoring of the application rates. Without experience it is very easy, even with the best intentions, to under or over apply chemicals. 

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

English,

Afrikaans, Tswana, Sesotho,
Sesotho sa Leboa, Zulu and Xhosa.

Time to check for soil compaction

**600 MM TO 2 000 MM OF RAIN WAS RECEIVED
IN THE MAIZE SUMMER PRODUCTION REGIONS
AND ON SOME OCCASIONS 50 MM TO 75 MM OF
RAIN WAS RECEIVED PER DAY IN CLOUD BURSTS.
THIS HUGE WEIGHT OF WATER PER HECTARE IN
A SHORT PERIOD CAN RESULT IN A COMPACTED
AND SATURATED SOIL PROFILE.**

The additional effect of the weight of the combines, tractors and bulk trailers and traction of tyres during the harvesting process, in the saturated soil conditions experienced this year, will have compacted soils more than normal.

Cattle put onto maize lands to graze the crop residue will also have compacted the soil under very wet or saturated soil conditions. In extreme cases of saturated lands ripping just before or at planting might be the only way to be able to plant you crops on time.

The very cold winter and rain in some areas has also contributed to a slow drying of the saturated soil conditions. It would be wise to assess the soil profiles of the lands to be planted to maize land and to use suitable tyne implements to loosen the soil profile below the compacted layers. This operation will also, most importantly aerate the soil. The soil bac-

teria and microbes only live actively in aerobic conditions in the top 150 mm to 180 mm of the soil.

The term aerobic refers to the presence of air, including oxygen, nitrogen and carbon dioxide gases in the loosened soil and water interface. The action of the tyne operation is critical so that the bacteria can be activated to break down the residues of the previous crop before the planting of the new crop. This bacterial process will start as the soil temperature starts to warm up from the last week in August, through September into October.

It is highly recommended that the tyning or ripping operation take place as soon as possible after the soils have reached field moisture capacity. An operation carried out above field capacity will most likely result in more not less compaction. The producer will have to adapt the implements to his particular operation if traffic control or minimum tillage cultivation practices are followed.

Maintenance of planters and the mechanical adaptations required that have not been completed should be carried out during early October.

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*Our aim is to produce the best
publication possible. Please direct any
comments on the editorial content or
presentation thereof, to Jane McPherson.*