

PULA IMVULA

>> GROWING FOOD >> GROWING PEOPLE >> GROWING PROSPERITY >>



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PANNAR®

Editorial team

GRAIN SA: BLOEMFONTEIN

46 Louw Wepener Street
1st Floor
Dan Pienaar
Bloemfontein
9301
► 08600 47246 ◀
► Fax: 051 430 7574 ◀ www.grainsa.co.za

EDITOR IN CHIEF

Jane McPherson

► 082 854 7171 ◀ jane@grainsa.co.za

EDITOR AND DISTRIBUTION

Liana Stroebel

► 084 264 1422 ◀ liana@grainsa.co.za

DESIGN, LAYOUT AND PRINTING

Infoworks

► 018 468 2716 ◀ www.infoworks.biz



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Grain SA Farmer Development Programme

DEVELOPMENT CO-ORDINATORS

Johan Kriel

Free State (Ladybrand)
► 079 497 4294 ◀ johank@grainsa.co.za
► Office: 051 924 1099 ◀ Dimakatso Nyambose

Jerry Mthombathi

Mpumalanga (Nelspruit)
► 084 604 0549 ◀ jerry@grainsa.co.za
► Office: 013 755 4575 ◀ Smangaliso Zimbili

Jurie Mentz

Mpumalanga/KwaZulu-Natal (Louwsburg)
► 082 354 5749 ◀ jurie@grainsa.co.za
► Office: 034 907 5040 ◀ Sydwell Nkosi

Graeme Engelbrecht

KwaZulu-Natal (Dundee)
► 082 650 9315 ◀ dundee@grainsa.co.za
► Office: 012 816 8069 ◀ Nkosinathi Mazibuko

Luke Collier

Eastern Cape (Kokstad)
► 083 730 9408 ◀ goshenfarming@gmail.com
► Office: 039 727 5749 ◀ Luthando Diko

Liana Stroebel

Western Cape (Paarl)
► 084 264 1422 ◀ liana@grainsa.co.za
► Office: 012 816 8057 ◀ Hailey Ehrenreich

Du Toit van der Westhuizen

North West (Lichtenburg)
► 082 877 6749 ◀ dutoit@grainsa.co.za
► Office: 012 816 8038 ◀ Lebo Mogatlanyane

Sinelizwi Fakade

Mthatha
► 071 519 4192 ◀ sinelizwifakade@grainsa.co.za
► Office: 012 816 8077 ◀ Cwayita Mpotyi

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

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Graeme Engelbrecht



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What would you do differently? This is the question we need to be asking ourselves.

Our crops should be starting to show their potential, pleased or disappointed, it is in our nature to want to do better or improve. Now, with all the work done still fresh in your mind, is the time to stand back and analyse the results of your work:

- You need to be honest and realistic and look for direct actions that could improve your crop.
- Look around you, what are your neighbours or friends doing?
- Attend farmers days.
- Ask others whose opinions you respect.

If you have not already done so you should record:

- What you did to get to this stage, with dates of actions, and importantly, now what you would like to do to improve.
 - Record the information, tips or technical data you have gathered.
- You are starting to formulate your plans for the coming season, to improve to do better or even go bigger.

Having a set plan will help you to start now, to work towards that plan and it is no longer just an idea or dream. Your chances of achieving and following the plan will improve and it gives you something against which you can constantly monitor and if need be, make necessary changes.

To learn from your mistakes, to improve, is only possible if you not only recognise the mistakes but find an alternative, better way of doing it and then ensure you actually implement that 'improvement'.

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Start at the beginning and take it step by step



GOOD MANAGEMENT

= planning & good timing

There once was a farmer. He was a good farmer. He achieved good yields despite challenging circumstances. One day a neighbour asked him to reveal his secret. The farmer responded simply by saying that 'last year I planned for the possibility of a tough year this year and strategised how I could still manage to achieve a favourable result even in challenging conditions'.

Our world is experiencing unbelievable climatic abnormalities. The conditions that we farm in today are by no means the same as our forefathers experienced years ago. The only way that we will be able to ensure food security into the future is to adapt! We need to plan for a wide variety of different conditions and how

best we can produce food in each of the different scenarios.

To be a farmer you need to perfect the art of planning in order to stay in business! As a crop farmer you should have a continuous process of thinking ahead. Even while you might be harvesting today you should be thinking of the crop that will go into the ground next season. But, don't just think the plans in your head, write them down.

Tips to help you with effective planning

Start by giving each crop field a name or code. This should always stay the same. Under the field name write out what the current situation on that field is i.e. maize planted, fallow, sunflower planted. Now one should break that

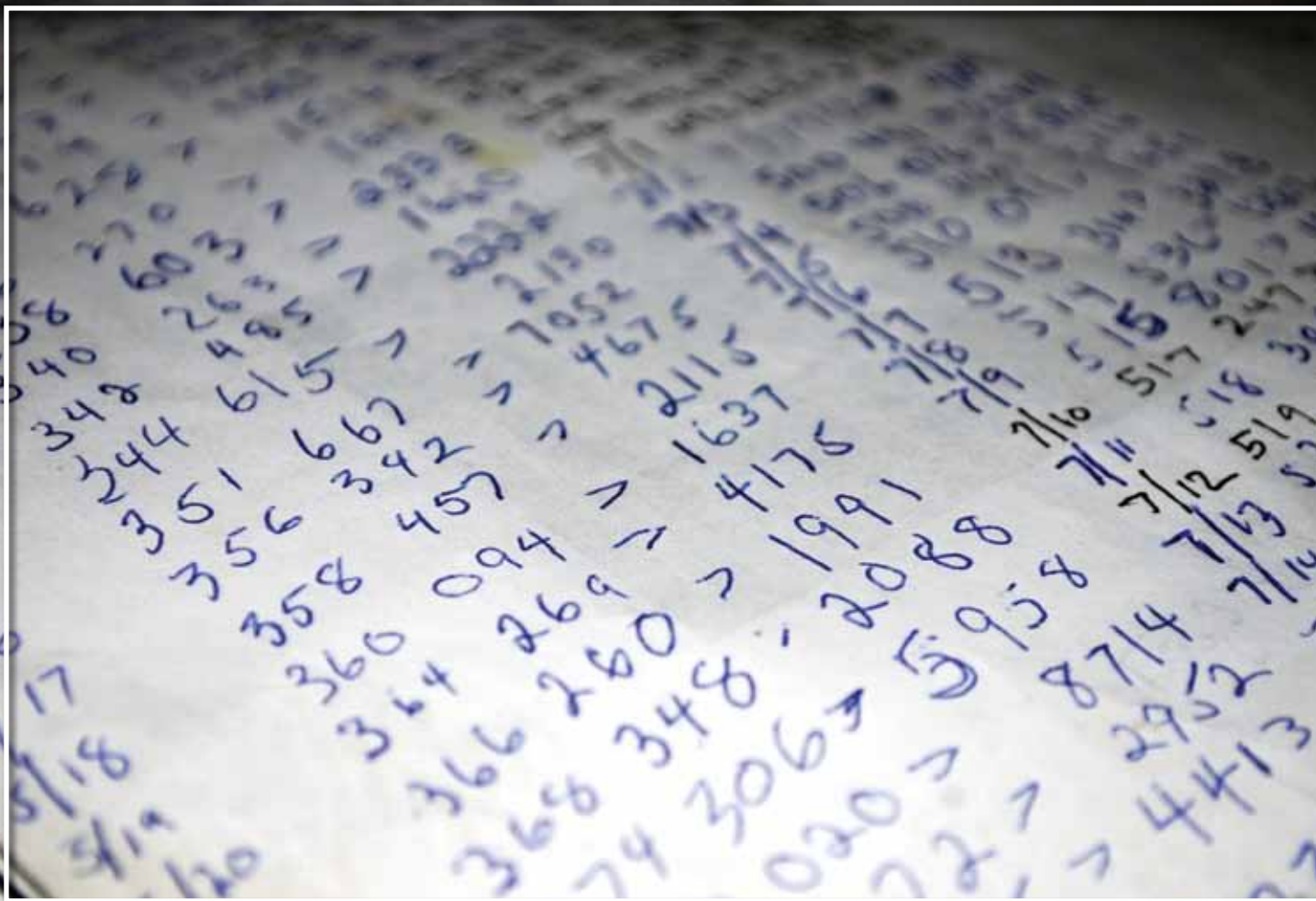
“A plan is only as good as its execution and implementation.”

down even further by going into more detail of the current application rates such as plant population, chemical applications, fertiliser etc.

By doing this you are giving each field a gauging point in order to track trends and performance going into the future. This will allow you to plan and make changes for the next years inputs based on last season's results, all while taking into account variations across the fields. You may even find that this will aid you in cutting costs as you will now be making your orders based on each specific field's needs.



Keep a day book which you keep with you all the time. This should be kept up to date with all the activities that you are busy with.



One needs to know your own financial situation to the cent in order to plan for the next season.

Be good about keeping a day book which you keep with you all the time. This should be kept up to date with all the activities that you are busy with as well as your daily planning. Plans do change from time to time and this is quite acceptable, however, a proper record should be kept if this has occurred.

“ *To be a farmer you need to perfect the art of planning in order to stay in business.*

There are varying facets of your business that will require special attention and where early planning is essential. These are as follows:

- **Cash-flows and budgets** – one needs to know your own financial situation to the cent in order to plan for the next season. By knowing what your financial situation is, you will have a better understanding of what you will be able to achieve in the following year. It will also give you time to strategise and make arrangements with the banks or other financial institutions if the need arises. A well-prepared budget can go a long way in building investor confidence in your business.
- **Inputs** – as mentioned earlier, by having a good plan in place and knowing exactly what activities will take place in each field as well as what crop you will plant where, you will be able to plan your input requirements more precisely. If this can be achieved and your budgets are in order you will most likely be able to place your input orders nice and early.
- **Labour requirements** – labour is an aspect of our farming operations which can be a huge expense but which we don't always plan very well for. It is usually the case that our labour requirements increase significantly in the busy time. Make an effort to plan your manpower needs and be pro-active about making arrangements with these seasonal staff members to be available at the time when you will need them and negotiate the terms of their employment before the season begins to avoid disagreements along the way.

- **Equipment needs** – know what your capacity is with regards to the equipment that you have access to. Don't over extend yourself and take on more than you can handle. It is also crucial to plan ahead for maintenance and make sure that your equipment is in a good state before the season starts.
- **Time** – timing is everything. If you have a good plan in place and you are prepared for a variety of circumstances, then you will be in a much better position to achieve a successful result like the good farmer in the beginning of this article.

A plan is only as good as its execution and implementation. Don't put the effort into planning if you are not going to make use of the plans. Rather be pro-active and put in the effort that will reap you yields in the future. 🍷

Article submitted by Gavin Mathews, Bachelor's in environmental management. For more information, send an email to gavmat@gmail.com.

The ABC of MARKETING YOUR CROP

In this article we will touch on the importance of grain marketing and also identify strategies that farmers can use to put together their own marketing plan.

Marketing is the performance of all business activities involved in the flow of goods and services (in this case maize) from the point of initial agricultural production until they are in the hands of the ultimate consumer.

It is important to note that groups with different interests will view marketing differently. Consumers want their products at the lowest possible cost, while farmers want the highest possible return. This may lead to conflict between producers and consumers, or in this case, the maize miller. Both maize producers and millers are exposed to a volatile market affected by many factors outside their control. There are various tools and marketing strategies for both farmers and millers to hedge themselves against these price fluctuations.

Developing and implementing a comprehensive marketing strategy is a critical step towards establishing a profitable farming business. A marketing strategy will help you make rational marketing decisions, allowing you to manage price risk and improve market returns. In order to market successfully, a farmer needs to stay informed and remain flexible.

Profit margins are continually being squeezed and the people who manage their risk are going to be the ones left standing. In order to have a diversified grain-marketing plan, one has to be able to change with the markets. Marketing does not just start from the point of sale.

Sticking with a pre-set marketing plan in a disciplined manner is critical to avoiding unnecessary price risk. Staying informed about the market will help ensure access to information needed to take advantage of price movements. The marketing plan should also be reviewed and revised on a regular basis as supply and demand conditions change.

Marketing strategies available to grain farmers

Harvest and store grain in co-operation silos to sell at a later stage when the price increases

The advantage is that the producer can share in price increases later in the season due to supply and demand factors. However, the disadvantage is that there is no form of price risk protection and the cost of storage; grain handling and interest are a big factor.

Pre-harvest forward contracts

A forward contract can be seen as an agreement between two parties to buy or sell any kind of asset at a future point in time. The advantage is that this strategy helps to control and hedge price risk. Depending on the kind of contract, the downside is that a farmer does not share in the benefits of favourable price movements. The farmer will also be liable to deliver the hedged quantity to the buyer, which increases the farmer's vulnerability towards production risk.

Harvest and store in own silos

The benefits of having one's own silo is that you do not have to pay direct storage costs and as a producer you can share in price increases later in the season if demand and supply factors work in your favour. On the other hand, the obstacle is having enough capital to build a silo.

Harvest and store in silo bags

The advantage is that a farmer gets to save on storage fees and capital for constructing a silo



Use your maize as animal feed and sell animals.



Use your own storage facilities.



SIX FACTORS TO CREATE A MARKETING PLAN

Consider the following six factors when creating a marketing plan:

1

Production risk

Choose crops that have the greatest income potential within the crop rotation used and understand the risk associated with growing that crop.

2

Market analysis

Gather all information needed to make an informed and rational decision. Closely monitor the market so that you know when to maximise profits.

3

Financial position

Understand production costs and farm cash-flow needs.

4

Marketing strategies

Reduce risk of falling prices by using grain contracts and by managing storage.

5

Actions and timelines

Identify target prices, sales tools, decision triggers and establish a timeline and key responsibilities for implementing the plan.

6

Evaluation

Grain marketing is an ongoing activity; review the marketing strategy at least yearly.



Store grain in silo bags.

as the silo bags are cheaper than permanent structured silos. The producer can share in the price increase, when supply and demand factors are favourable. The risk with storage bags is quality deterioration of the grain when stored for extended periods.

“Marketing is the performance of all business activities involved in the flow of goods and services.

Hedge yourself on Safex (futures and options)

The upside is that the farmer can control and hedge price risk. The downside is that hedging

costs a certain amount of money in order to make use of futures and options. Farmers who do not feel confident to trade on the Futures exchange (Safex) hire traders, which costs a fee.

Sell grain on spot market and buy futures

For those who do not want to store their grain, they can follow this strategy. They sell their grain on the spot market as soon as they harvest it and buy futures in order to stay in the market. The advantage is that the farmer can still share in price increases and they do not have to pay any storage fees, they are also able to repay financial debt quicker.

The disadvantage is that if the market turns around and prices decrease, then the farmer makes a loss, which can have a negative impact on a farmer's cash-flow.

Use your maize as animal feed and sell animals

For farmers who have both animals and crops; taking into consideration the animal feed transferring ratio, one can decide if they want to sell their maize or feed it to their animals during low maize price years, rather earning money from their livestock.

The disadvantage is that meat prices also fluctuate, so it is no guarantee that meat prices will be sustainable during low maize price years.

Conclusion

Sticking with a pre-set marketing plan in a disciplined manner is critical to avoiding unnecessary price risk. Staying informed about the market will help ensure access to information needed to take advantage of price movements. The marketing plan should also be reviewed and revised on a regular basis as supply and demand conditions change.

'Hedging is one means of reducing risks in the commodity market with the commodity futures exchange markets. Like the use of car insurance, to hedge the potential costs of a car accident, agricultural producers can use the commodity futures markets to hedge the potential costs of commodity price volatility.'

Article submitted by Ikageng Maluleke, Junior Economist, Grain SA. For more information, send an email to Ikageng@grainsa.co.za.

A MOMENT IN THE LIMELIGHT BUT A LIFETIME OF PREPARATION



Recognition as a leading commodity organisation, as well as best governed rural development project after AgriSeta intervention: Dukuza Study Group.

It was with great pleasure that the Farmer Development team learned that we were invited to attend the Annual AgriSeta Excellence Awards gala dinner early in October 2018. Our longest serving Farmer Development Manager, Mr Jerry Mthombothi from the Nelspruit Regional Development office, was nominated to represent the team.

At the glittering occasion we were delighted to find that Grain SA was to be honoured with two prestigious awards, namely:

- Recognition as a **Leading Commodity Organisation**; and
- **Best Governed Rural development Project After AgriSeta Intervention: Dukuza Study Group.**

We sincerely thank AgriSeta, who've been partners with Grain SA Farmer Development for many years now, for both of these awards. We are humbled and thankful that they are seeing the fruits of their investment into our projects and we trust that many years of partnership still lie ahead.

We also acknowledge with gratitude the contribution to these successes made by a dedicated team involved in the Grain SA Farmer Development Programme lead by Ms Jane

McPherson. At the same time, we honour the farmers we work with. These hard-working individuals make the most of every opportunity they are presented with to learn and grow.

With partnerships like these we believe we can make a difference to national and household food security levels through the establishment of viable grain farming enterprises. This is achieved by bridging knowledge gaps and equipping farmers with the necessary skills and appropriate training in the many diverse aspects of farm operations and management.

Success follows action

'Success is the result of perfection, hard work, learning from failure, loyalty, and persistence.'

– Colin Powell

This is true of the efforts of the Grain SA Farmer Development team. As Grain SA, we are trying to contribute to transformation and the dream of a united, prosperous agricultural sector. We aim to address the challenges of food security, income generation for those who have access to land and ensure good custodianship of the natural resources. We are excited to be working in a sector which has the potential to contribute to all the pillars of rural development.

Apart from a **passion for transformation and farmer development**, it is worth noting that a few **key building blocks have been put in place** to ensure the high levels of excellence and integrity which form the framework for the good governance for which this programme is widely recognised.

Noteworthy factors contributing towards the integrity of this particular programme:

- **We are fully funded and supported by grain trust funds, agri-businesses and other strategic partners** equally committed to transformation in the sector.
- This means that **we do not have to involve ourselves in income generation, nor do we participate in trading activities for our own gain.**
- We have **no ulterior motive** other than to assist in the personal growth and development of the farmers of South Africa because we believe we can make a difference.

What is 'good governance'?

Good governance is achieved through commitment to organisational vision and conscientious attempts to consider all role-players involved. It requires intentional action that assures stakeholder interests are addressed and reflected in project activity. **It is participatory, accountable,**



All organisations who received recognition for their achievements on this special occasion.

transparent, responsive, effective and efficient, equitable and inclusive, and respects the rule of law and policy frameworks. Good governance is responsive to present and future needs of the organisation, and exercises wisdom in decision-making.

Six important characteristics of good governance

1. Rule of Law

Good governance requires fair legal frameworks for the full protection of all stakeholders.

2. Transparency

Transparency means information should be provided in easily understood forms and made freely available to those affected by the policies and practices.

3. Responsiveness

Good governance requires that organisations and their processes are designed to serve the best interests of stakeholders.

4. Equity and inclusiveness

The organisation that provides the opportunity for its stakeholders to maintain, enhance, or generally improve their well-being provides the most compelling message regarding its reason for existence.

5. Accountability

Accountability is key to good governance. An organisation is accountable to those affected by its decisions or actions.

6. Participation

Participation is a key cornerstone of good governance. Participation needs to be tailored to achieve the best results so that all stakeholders feel heard and respected.

Time + Effort = Success

Grain SA Farmer Development has been acknowledged with these prestigious awards partly because of good governance. The following characteristics have contributed to this:

- The Grain SA Farmer Development Programme is guided by policy formulated by both the organisation and its donors. We strive to **respect the frameworks** in place and design our activities accordingly.
- We are **committed to transparency** and have developed a sophisticated system of reporting. Apart from the standard interim and annual reports, we have a detailed informative and interactive web reporting platform.
- A **database** has been compiled with a profile for every farmer member. For the farmers

participating in the Jobs Fund Project this includes a photo, a copy of ID document, JF contract, GPS co-ordinates of the fields, a copy of the PTO (permission to occupy) and deposit slips.

- All **website reporting** on activities includes study groups, farmers' days, farm visits, training courses, school visits, demonstration trials, farmer of the year participants and strategic meetings with partners and stakeholders. Evidence of each interaction is provided with photos and attendance registers as well as a report of what transpired on the occasion.
- We have a **clear and transparent book keeping system** and are proud of the clean audits which clearly reflect the conscientious disbursement of funds.
- Grain SA Farmer Development has organised **TPFA accounts for farmers** to assist in the management of monies. These accounts are managed together with each farmer and are reported on weekly.
- The human development aspect of this work is key and relationships between team and farmer are important. We strive to build **open channels of communication** where challenges and issues are discussed, and solutions are sought. Equally important are the relationships with our partners and other stakeholders and industry role-players as **we strive to build a support system for the programme and a network for each farmer**.

While recognition is always satisfying, it must never be the goal. H. Jackson Brown says: 'Don't do work for recognition but do work worthy of recognition'.

Article submitted by Jenny Mathews, Pula Imvula contributor. For more information, send an email to jenjonmat@gmail.com.



Pula Imvula's Quote of the Month

Find a group of people who challenge and inspire you, spend a lot of time with them, and it will change your life.

~ Amy Poehler

YES, use foreign capital, BUT...

In the August 2018 issue of Pula Imvula we discussed the question 'Do I use foreign capital or not'. In this article the question whether the use of foreign capital will improve the rate of return on your own capital, is addressed.

To refresh our memories: The money you will need to set up a farming business and to maintain your business is referred to as capital. And, there are basically two sources of capital. Firstly, own capital – the term used for the capital or money that you provide from your own pocket (perhaps money you have saved for this purpose). Secondly, you could borrow money from someone else, known as foreign capital.

In the August 2018 article we concluded, to use foreign capital is a burden with some risks involved, therefore it requires careful consideration. We have also referred extensively to the use of a cash-flow budget to determine whether you will be able to re-pay the loan (the foreign capital).

However, that is but one part of the question to use or not to use foreign capital. The other part of the question is, will it be worthwhile to use foreign capital? To obtain the answer to this question you need financial information obtained from the balance sheet (statement of financial position) and income statement (statement of financial performance) of your business. Be aware of the fact, that without the correct information available you cannot provide the correct answer to this question.

To determine whether it is worthwhile to borrow foreign capital, one needs to determine whether there is an increase on the rate of return of your own capital. Explained in simple terms, rate of return refers to the amount of money made by your investment expressed in percentage – should you invest, say for example R100 000 with a bank in a savings

account for a period of one year, and at the end of the year you receive R105 000. The rate of return on your investment is then 5% (R5 000 expressed as a percentage of R100 000 = 5%).

Unfortunately, the fact is that for farming in South Africa, the rate of return or then the money earned on your investment is rather low – on average some 6% - 7% per annum, especially for the more extensive types of farming. A side-line remark – this poses the question – is it worthwhile to farm? You could possibly earn more by investing your money with a financial investment institution and earn more than 6% - 7% without any effort or risk.

Therefore, as a farmer, you should consider the question whether you should use foreign capital from the point of view, will the use of foreign capital improve the rate of return on my own capital?

“The money you will need to set up a farming business and to maintain your business is referred to as capital.”

Let's consider a simple example. You have an established small farm and you have invested R800 000 in this business. This figure is available from a statement of financial position or then balance sheet (see a previous article for an example of this statement) under owner's equity. The farm profit as indicated in the income statement is say R80 000, then the rate of return on own capital is 10%. You wish to expand your business to make more money, by adding a small broiler production unit. You however consider borrowing the funds, R200 000, for this purpose at an interest rate of 12%. You have calculated that your farm profit could increase to R90 000,

that is after the interest of R24 000 is paid. The rate of return on own capital will then be 11,25% (R90 000 of R800 000 own capital) which is then a so-called positive leverage.

Vice versa, you can only borrow the R200 000 at an interest of 15% and the farm profit will be R75 000 after and because of the interest of R30 000 to be paid. Then the rate of return on own capital will be 9,375%. This figure is lower than the original 10% rate of return on own capital and is a negative leverage. It is thus, on paper, not worthwhile to borrow money to progress with the broiler production unit. The decision to borrow, remains yours. But, remember once you have repaid the loan the position will change positively.

The two factors influencing the leverage is the additional profit that the new enterprise will make and the interest rate you will pay on the loan.

You might feel that this is all a bit theoretical. From a practical point of view, it remains the safer option not to use foreign capital. Or, as we have stated in a previous article 'the best debt is cash'. Should you however decide that you must borrow money, get all the information that is needed and consider the interest charged on the loan. Negotiate for a lower interest rate.

We also acknowledge the fact that sometimes you will be forced to borrow money to keep your business running, regardless all negatives attached to borrowed capital – such as a production loan or after a drought but borrow responsibly. ●

Article submitted by Marius Greyling, Pula Imvula contributor. For more information, send an email to mariusg@mcgacc.co.za.

Is my BEEF PRODUCTION SYSTEM right for my farm?

Low profits achieved in crop production force producers to approach their farming enterprise from a different angle. The livestock industry does not escape this trend.

Many producers wonder if other livestock production systems are not perhaps faring better. They ask themselves what can be done to earn more profit from cattle and whether an ox system is not perhaps a better option.

Comparing systems is usually not that simple, and incomplete information can probably result in the wrong answers. It is important to have all the information available and to interpret the data correctly.

Regardless of the system you run, the basic aspects of stock farming must be in place. This includes:

- Continuous sufficient roughage – in other words enough throughout the year.
- The right supplementary feed to balance the needs of the animals and that of the feed.
- Producing in cycle with resources.
- Adequate clean water.
- Timeous and preventive disease and parasite control.

Beef production systems

The beef systems that can be compared with one another are:

- Typical weaner system.
 - 18-month marketing system.
 - 36-month ox system.
 - Weaner system with the typical April weaners being wintered and then sold just after the winter to be finished for the Christmas market.
- Each system is unique and has other rules, diverging herd compositions and marketing times, as well as risks.

Drought

Droughts are part of agriculture in South Africa. Every system deals with the same climate risks in a different manner and the effect of droughts will have different results for the system. In a drought year a portion of the cows in the weaner system will have to be sold, while a portion of the calves in the other systems can also be sold.

The prices and popularity of the animals to be sold in the market will differ. Cows in a weaner system are usually more difficult to sell and fetch a lower price. With the other systems the calves can be removed from the veld relatively easily and fed or sold to feedlots.

When the drought is broken, the next setback usually hits the weaner system. In order to get the farm into full production again, cows will have to be bought or heifers will have to be held back. Again this is an unplanned expense and the animals will also be bought at a higher price than the one for which they were sold.

The effectiveness of such a system differs dramatically from that of other systems. In the weaner system the cows are the only factory producing the calves (and the income). If the cows have a low calving percentage, for whatever reason, the profitability will be significantly affected. A high calving and weaning percentage is non-negotiable. It remains a challenge, but it is possible to maintain a calving percentage of more than 90% over time.

In other systems the factory is not just the cow, as calves that have already been produced also provide an income. These calves only have to grow, but mortality has to be limited to a minimum. As these calves were born and raised on the farm, their mortality should generally be low. The production risks in these systems are usually relatively lower than in a weaner system.

This fact has a major effect on the profitability of the system. The calves in a weaner

Table 1: Budgeted gross margin determination of various beef production systems for the 2018/2019 production year.

	36-MONTH MARKETING SYSTEM	18-MONTH MARKETING SYSTEM	TRADITIONAL WEANER MAR- KETING SYSTEM	POST-WINTER WEANER MAR- KETING SYSTEM
	Per average LSU	Per average LSU	Per average LSU	Per average LSU
Calving percentage	85%	85%	85%	85%
Gross production value R	4 130,15	4 881,77	4 610,24	4 803,94
Directly apportionable variable costs				
Fodder and licks	1 283,99	1 395,90	1 017,74	1 301,67
Dosing	86,74	84,57	69,50	80,98
Vaccinating	58,81	110,13	119,47	120,29
Other injections (trace minerals and medicine)	40,15	40,78	39,51	39,78
Dipping	43,45	40,90	39,73	47,05
Other (ear-tags, gas, etc.)	13,03	13,91	10,57	12,94
Use of casual labour	13,12	13,16	13,11	13,20
Machinery, tractors and diesel	122,50	122,85	122,40	123,24
Veterinarian and consultants	284,37	372,95	371,57	374,12
Equipment	35,00	35,10	34,97	35,21
Stock purchases	437,50	438,77	437,14	440,14
Production credit interest	145,12	160,14	136,54	155,32
Total directly apportionable variable costs	2 563,77	2 829,16	2 412,25	2 743,94
Gross margin	1 566,38	2 052,61	2 198,00	2 059,99

Is my beef production system right for my farm?

system have to be sold within a certain period to prevent the food of the producing cows being consumed by price penalties.

To a certain extent the other systems have more freedom with respect to marketing, but the animals also have to be sold within a certain period to prevent a feed-flow problem.

Although the systems differ, the critical success factors of the different systems remain the same. Cows must produce and the calving and weaning percentages and weaning weights must be carefully managed. The stock numbers must at all times remain within the limits of the carrying capacity of the grazing. If there is a shortage of feed, the production will be harmed.

Licks

Licks that are provided must be adapted to the need of the animals and the nutritional value of the veld. Do not regard licks as a source of food, but as supplementary feed. The intake of the licks should be according to expectations to ensure that the animals consume the required elements. Yet, the licks should increase the profitability of the system, otherwise there is no sense in using them.

Herd health

The animals' health should always be at an acceptable level, and internal as well as external parasites must be controlled timeously and preferably preventatively. The taking of regular dung samples can contribute towards determining the dosing and its effectiveness.

Herd composition

The herd composition of the different livestock systems differs dramatically. On a farm that can carry roughly 100 large-stock units (LSU), about 60 cows will be carried for a weaner system, while an 18-month marketing system can carry about 44 cows and a 36-month marketing system only 32 cows. The rest of the carrying capacity will be taken up by replacement animals, calves or growing animals.

Marketing

Beef production systems also have their own marketing periods and several types of animals will be marketed then. The spring weaner system will market mainly weaners and old marketable animals in April, while the 18-month system will deliver mainly finished 400 kg cattle to the market from March to May.

In the 36-month marketing system fully grown, finished oxen will be supplied to the

Graph 1: Ten-year and three-year C2- and C3-grade beef price trends on a monthly basis.



Source: AMT

Graph 2: Ten-year and three-year A2- and A3-grade beef price trends on a monthly basis.



Source: AMT

Graph 3: A2- and A3-grade beef price trends and estimates on a monthly basis.



Source: AMT



market from October to December. Different prices definitely apply during these times and it is important to take the supply and demand in the market into account.

Graph 1 illustrates the long-term trends of producer beef prices of C grades, while **Graph 2** depicts the long-term trends of producer beef prices for A grades.

As can be expected, the stock prices are low in April and high in December. The main driver for this is the supply of and demand for meat. If we analyse the weaner price (**Graph 3**), there are clear similarities between the general meat price trends and the price of weaners.

As can be seen in Graph 3, the general weaner prices from March to June are low, and then start to rise again after December. These price trends of weaners in particular reflect the supply, and this affects the primary producer because he usually has to market his weaners within these periods.

However, the price of livestock is not determined only by supply and demand, but also by other aspects like the general status of the economy, the maize price and the price of poultry, to name but a few.

It is generally accepted that weaner systems produce the lowest profitability. 'The feedlots always affect the prices,' we hear regularly. By making a 100% correct calculation and including all income and expenditure you can get the correct answer, however.

The 18-month marketing system, where the animals are marketed as market-ready animals, seems to be the best system in which to produce.

If the 18-month marketing system is followed, it would be important to make sure that there will be a market for your finished animals. Remember: You have to compete with other meat producers who supply their animals to the consumers and butchers on a monthly basis. It would be good practice to agree with a meat buyer beforehand to purchase your market-ready animals.

“Comparing systems is usually not that simple, and incomplete information can probably result in the wrong answers.”

As far as the production in the system is concerned, the livestock you farm with must be able to produce finished animals before the animals start to shed. If the animals shed first and are finished only then, the price of meat will be negatively affected, as will the profitability of the system.

If the weaners are sold after the winter, it is important to ensure that the expected price increase and mass increase will be able to service the additional feed account. You should therefore make sure of your decision before

you elect to keep back the weaners for marketing at a later stage.

If everything is taken into account, the system will not really affect the profitability of stock farming, but rather the effectiveness and production of your current system. By increasing the effectiveness and production of your current system and perhaps making minor marketing adjustments, you can dramatically increase profitability.

The replacement policy with respect to cows is another aspect that requires more attention. If cows are replaced too quickly, more replacement animals have to be carried – and they take the place of animals who have to produce. However, if the cows are kept in the herd for too long, the productivity of the herd will definitely be harmed.

Breed also plays a role. The cows of some breeds remain productive for longer, while those of other breeds have to be replaced sooner. Make sure you know what the cow effectiveness of your herd is and use this as the norm to establish when the cows have to be replaced. This has an enormous impact on profitability. 🍷

Article submitted by Pietman Botha, SA Grain contributor, for SA Graan/Grain March 2018. For more information, send an email to pietmanbotha@gmail.com.

Animal diseases that affect humans

WHAT IS A ZOOONOSIS?

A zoonosis can be defined as a disease or infection that can be transferred naturally to and from vertebrates (for example, dogs, cats, cattle, goats, sheep, game, poultry, birds, pigs, horses, donkeys, fish, crocodiles and other reptiles) and humans.

Humans are often an accidental host, contracting a disease through close contact with an infected animal with or without signs of disease. In the broadest sense, the word zoonosis means a disease condition of animals – specifically vertebrates – and therefore also humans.

The word is derived from the Greek *zoon*, meaning animal, and *noses*, meaning disease (ailment or illness). These zoonosis diseases (diseases normally occurring in animals that can infect humans), which humans can pick up from domesticated as well as wild animals, can be grouped further with a view to investigating and establishing control measures.

Infections or diseases that can be found primarily in animals and are transferred naturally to humans – like parrot disease, rabies or brucellosis (Malta fever) – are called anthro-zoonoses. Infections or diseases that can be

found primarily in humans and are transferred naturally to animals – like influenza (flu) or tuberculosis – are called zo-anthroponoses.

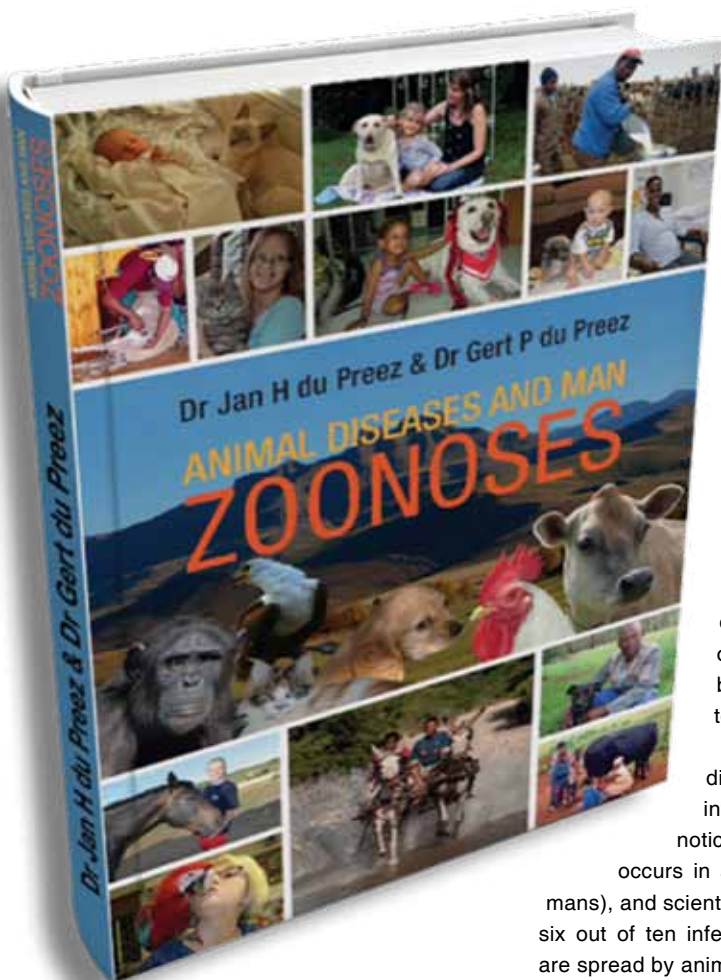
The reciprocal transfer of diseases between humans and animals – like giardiasis (a protozoan parasite) or staphylococcus infections (bacterial infections) – are called amphizoonoses.

humans and specifically children. The financial impact of zoonosis is also significant.

Millions of people world-wide have to undergo preventative treatment after exposure to rabies. The preventative treatment costs South Africa approximately R70 million per annum. Millions of working hours are consequently lost, which entails monetary expenses and stress.

The annual monetary losses due to tuberculosis, brucellosis and rabies in cattle amount to several billion rands world-wide – South Africa is not unaffected. Furthermore, zoonoses can also result in monetary losses because they can prevent the exporting of meat and other animal products. Zoonosis control programmes are therefore very important – for the wealth as well as the health of humans.

“Zoonosis can, in the long run, promote malnutrition in humans and specifically children.”



The book *Animal diseases and man – zoonoses* is the result of collaboration between experts in veterinary science and human medicine and gives a clear message: Continue with the good relationships you have with pets and companion animals, the pleasure of viewing game and fishing, as well as possible interaction, working with animals, eating your preferred food from animals and drinking milk – as long as you are aware of the possible risks and appropriate hygiene preventive measures regarding the health of the animals and your own to prevent infections. More information at www.zoonoses.co.za.

Financial impact

More than 200 different zoonoses are recognised world-wide. Zoonoses are caused by different disease-causing agents or micro-organisms (pathogens) like bacteria, viruses, fungi, protozoa, rickettsia and worms.

Of the 1 415 known disease-causing agents that infect humans, 61% are zoonotic (a disease that normally

occurs in animals, but can infect humans), and scientists estimate that more than six out of ten infectious diseases in humans are spread by animals.

The world population was calculated at 7,5 billion in June 2017. Statistical data shows that 10% to 15% (more than one billion people) or more of the human population will at some time or another contract a zoonotic infection.

Zoonoses undermine the health, productivity and reproduction of animals that produce essential food (meat, milk and eggs) and fibres (wool), as well as their ability to work. Zoonosis can, in the long run, promote malnutrition in

Protect yourself like this

There are certain actions that one can take to protect yourself and your children against zoonotic diseases. Humans can contract zoonotic infections through direct contact (brucellosis and ringworm) with infected animals, inhalation (parrot disease and influenza), contact with infected material or objects (scabies), intake of infected milk (brucellosis and Q fever), water or food orally (listeriosis and *Campylobacter* infection) and through the bite of bloodsucking invertebrates (Krim-Kongo haemorrhagic fever) like ticks, flies, mosquitoes and fleas.

Many animals that have zoonotic infections show no disease symptoms (asymptomatic). Some people's risk of contracting the disease are greater than that of others. People who have a bigger chance of contracting zoonotic diseases are people older than 65 years, children under the age of five, pregnant women, any person with a defective immune system (for example, people with human immunodeficiency virus [HIV] or acquired immune deficiency syndrome [AIDS]), or patients with cancer who are undergoing chemotherapy.

Zoonoses can be prevented and controlled with the necessary knowledge and information.



There is direct contact between children and dogs. Make sure that pets are free from internal and external parasites and infections. The immune systems of children under the age of five are also not yet that strong.

Education, training and providing information are the key to ensuring that the owners of pets as well as other animals and people who have contact with animals are safe and healthy.

World zoonosis day is held annually on 6 July to educate the public and make them aware of the importance of zoonoses world-wide and to encourage active attempts to control zoonoses.

During the past decades remarkable progress and breakthroughs have been made with regard to vaccine development and disease treatment. Most zoonoses are preventable and the majority are treatable if the diseases are diagnosed early enough. There is no reason to be scared of animals or to avoid them in order to protect yourself from zoonoses.

Article submitted by Dr Jan du Preez, veterinary specialist: National Health, for SA Graan/Grain March 2018. For more information, send an email to drjanh.dupreez@gmail.com.

LOOK AT THIS: STORING SEED ON THE FARM

Seed is the most important input when crops are produced: The yield potential is locked up in the seed and it will ultimately be the deciding factor of the size of the harvest – depending on the environmental conditions and cultivation practices.

Seed companies specialise in the production of seed. They are thoroughly familiar with the factors that play a role in the ultimate quality of the seed and take all precautionary measures to ensure that the seed made available to the producer complies with all minimum quality standards of the Plant Improvement Act, 1976 and the South African Seed Certification Scheme, where applicable.

In fact, the internal quality standards of the seed companies are generally higher than required by the Act. Every seed batch sold is first sampled thoroughly by trained samplers and analysed by registered seed-testing laboratories according to international procedures and methods.

Therefore, when seed is bought from recognised seed companies, the producer has the assurance that it is high-quality seed – what happens to the seed after that is not within their control.

Handling of seed

Seed is a living organism and must therefore be handled with the necessary care – this specifically applies to large seeded legumes, such as beans, soybeans and groundnuts.

When seed from such crops is loaded and unloaded, it must be handled carefully and not dropped – rough handling will cause the seed to split or sustain internal damage, which will lead to abnormal seedlings that cannot develop into a normal plant.

Longevity of seed

As seeds age, they slowly lose viability. Seeds of some crops like soybeans and groundnuts have a very short lifespan in storage, while other seeds lose their viability over longer periods. There can also be noticeable differences in the longevity of seed from different varieties of the same crop. Only seed with high viability (initial seed quality) should be stored. Poor-quality seed will have a shorter lifespan in storage.

There are various factors that determine the longevity of seed, of which the two most important are seed moisture content and temperature.

Seed moisture content and relative humidity

The moisture content of seed during storage is undoubtedly the most important factor influencing the longevity of seed. Seed companies take the necessary precautions to ensure that the seed moisture content of seed that is sold is within limits.

Seed degradation escalates as moisture content increases. According to Harrington's (1963, 1970) rules (*rule of thumb*), each decrease of 1% in seed moisture content (in the vicinity of 5% - 14%), will approximately double the storage lifespan of the seed.

It is important to note that unless seeds are sealed hermetically, their moisture content will not stay constant during storage. Under open storage conditions, the seed moisture content equilibrates with that of the air and it then varies according to the air moisture. The importance of seed moisture content has already been emphasised. Obviously then: the higher the air moisture content (relative humidity), the higher the seed moisture percentage will be and the shorter the lifespan of the seed.

Relative humidity (RH) is the quantity of moisture in the air expressed as a percentage of the total quantity of moisture that the air contains at the same temperature. Seeds with a high percentage of proteins, carbohydrates, or both (like soybeans, maize and other grains) will have moisture percentages of approximately 13% - 15% at 25°C and 75% relative humidity, while oil-rich seeds like cotton and groundnuts will have a moisture content of approximately 9% - 11% under the same conditions.

Temperature

Temperature is the second most important factor influencing storage lifespan. As there is a close link between temperature and moisture, neither of the two factors can be discussed in complete isolation.

Generally, the storage lifespan of seed will increase as temperature decreases. Harrington (1963, 1970) postulated that the storage lifespan of seed is halved with every 5,6°C (10°F) increase in temperature (in the area of 0°C - 50°C). Cold storage at 0°C - 5°C will prolong the seed lifespan, provided the seeds are kept in moisture-proof containers so that seed moisture can stay constant.

If relative humidity can be controlled together with temperature, the following rule can be applied: The total of the storage temperature in



degrees Fahrenheit and the relative humidity should not be higher than 100, and the temperature should not be more than half the total. This means that the temperature should not be higher



“There are various factors that determine the longevity of seed, of which the two most important are seed moisture content and temperature.

and relative humidity that could negatively affect the germination of seed.

Tips for the storage of seed

- The storage area/room should have a solid floor. Pack the seed on pallets. In other words, do not stack it directly on the floor.
- There should be proper ventilation so that high temperatures and humidity can be prevented.
- Ensure that the roof is not leaking – water dripping on the bags can cause the seed to start germinating and become mouldy.
- Protect the seed against insects and rodents – have regular inspections and have control measures in place if signs of their presence are observed. Actions should also be preventive. If fumigation is done, make sure that you use the correct fumigants that will not affect the viability of the seed. It should be done by trained persons, according to the prescribed dosages and procedure.
- Do not pack seed directly next to other products such as fertiliser and chemicals – it can affect the viability. Keep a space of at least 1 m open between seed and anything else.
- Do not remove labels from containers and keep containers of different seed batches and varieties together – if varieties are mixed up, it can lead to major damage later with, for example, the spraying of herbicides.
- After the seed has been planted, the labels should be preserved, at least until after the seed has been harvested – if there are any problems with the seed, it will be much easier to follow up on the problem.
- If it has been stored for a long period, have the seed tested by a registered seed-testing laboratory before it is planted.
- Keep the seed store dust and litter free.

than 50°F (10°C), and at this temperature RH should not exceed 50%.

The ideal would be to always store seed in cold storage, but naturally it is not always

possible or necessary for short-term storage of seed to control the temperature and relative humidity. Nevertheless, everything possible should be done to prevent high temperatures

Article submitted by Eddie Goldschagg, Technical Manager, SANSOR, for SA Graan/ Grain March 2018. For more information, send an email to seedcert@sansor.co.za.

EXPERT TIPS

on producing better silage

Get the best out of a silage maize crop by using the correct planting and management methods. To ensure that the maize crop intended for silage reaches optimal quality, it is crucial to harvest it at the best time.

Maize silage is maize grain attached to a digestible grass and is a nutritive energy source. Both components – maize and grass – are important to silage quality. Maize grain provides about 65% of the energy found in maize silage. It's therefore beneficial to achieve as much grain yield as possible from a silage maize crop because this will increase the energy-rich starch component in the silage. Keep in mind that the grass component of silage maize is high in fibre, which influences the maize silage energy density and animals dry matter (DM) intake.

Maize silage is a concentrated feed containing appreciable levels of starch in a highly digestible form, together with effective roughage and protein. This allows a farmer to cut back on more expensive additional feed inputs. There are three factors that affect final silage quality. The first is the environment, which is largely out of the farmer's control. It includes water, sunlight, heat, soil properties, pests and diseases. The second is the silage maize hybrid selected for production. Choosing the correct hybrid best suited to local

conditions is crucial. The third is management and it has the greatest influence on silage maize crop yield and quality.

Management focuses on planting and cultivation practices, crop maturity at harvest and crop processing and ensiling, among others. You need to ensure that the hybrid you're planting has a track record of good yield performance within your local environment.

To ensure that the maize crop intended for silage reaches optimal quality, it is crucial to harvest it at the best time. The primary goal should be to maximise starch content. In the plant's initial growth stage, development is centred on producing the stem and leaves. After this, tassels begin to appear, and grain-fill of the cobs takes place over about eight weeks. This is a critical period, because about 50% of the crop's final DM accumulates then. The bulk of this DM accumulation is grain starch. Moreover, during this period the starch content of the maize grain changes as the plant matures.

The later the crop can be harvested for silage, the higher its starch content is likely to be. This adds both quality in the form of starch and quantity in the form of DM to the maize silage. The 'milk line' – the colour difference between the soft and hard starch content of the maize kernels that can be seen on a cob snapped in two, it can be used to determine starch content and hence when the crop is ready for harvesting.



Physiologically ripe, no milk line 1.


The maize is ready for ensiling when the milk line has moved halfway down the kernel. For maximum starch, the crop should be ensiled only once the milk line is two-thirds of the way to the tips of the kernels on most cobs sampled from the standing crop. This coincides with about 35% DM content of the crop. Ensiling a silage maize crop at a higher DM content requires care and good management.

Silage should be packed firmly and compacted in pits to remove as much air as possible to reduce the oxygen content, thus reducing the risk of spoilage before the pit is covered. It is important to ensure that the kernel cracker in the harvester breaks the kernels properly as 'uncracked' whole maize kernels simply pass through the animal's digestive system. This is a waste of potentially top-quality maize silage.

During fermentation and post-fermentation storage, the digestibility of the starch in the silage improves, influencing the quality of the final product. Although the silage is ready for utilisation after about four weeks, fermentation in the silage pit should continue for at least six months for maximum digestibility before the silage is utilised. Prevent water from contacting the stored forage. Feed the silage out carefully to reduce further loss. Try to expose the silage as little as possible to air, as oxygen is detrimental to the silage quality. Discard silage that deteriorates.

Paying attention to detail can significantly improve the final quality and quantity of the silage that you cut every year. 🍷


MILK LINE



MILK LINE

SILAGE

- **The moisture will be about 65% at 50% milk line this is the ideal time to cut your silage.**
- **Grain moisture will be 37% and maturity is 35% moisture.**
- **It is advisable to start cutting your silage at 40% milk line and to end off at 60% milk line.**
- **That means that the largest portion of your silage will be at 50% milk line when you cut it.**



Article submitted by Grant Pringle, Product Agronomist, PANNAR. For more information, send an email to grant.pringle@pannar.co.za.

THE CORNER POST

WILLIE PRINSLOO

Start at the beginning and take it step by step



When Willie Prinsloo was approached by two brothers from Bothaville with no farming background to find out whether he would assist them to become farmers, he decided to take up the challenge.

Although he is not officially part of the Grain SA Mentorship Programme, Willie has been the Mabaso brothers' mentor for nine years and is very excited about the role he has played in their growth as farmers.

Willie, who is also a well-known businessman in Bothaville, has been a maize farmer in the Viljoenskroon area for as long as he can remember.

The best place to begin

'Let's start at the very beginning, a very good place to start. When you read you begin with A-B-C, when you sing you begin with do-re-mi...' These words of advice come from a song from the classical musical, *The sound of music*.

Willie believes that starting from the beginning, with the basics, is the only way to train beginner farmers. 'We all have to go through school from Grade 1 to Grade 12 to be prepared with the necessary skills – reading, writing and arithmetic. I decided to apply the same principle in training President and Anton – to begin with the basics. Once they had mastered that, I could move on to the next level,' says Willie about the approach he applied to train the Mabaso brothers. He believes that it takes about ten years to truly understand agricultural practices and become a real farmer. 'Most beginners give up before then,' he says.

The two brothers were born on a farm in the Bothaville district to parents who were both farm workers on Willie's father's farm. They have a small enterprise in town and feel very privileged to have been able to secure land from the Bothaville Municipality as it is not easy to obtain land in this area. Although they never worked on a farm, they always had a keen interest in agriculture as it was their father's passion.

Seeing sunflowers grow next to the road on unattended soil, could lead a beginner farmer to believe that it is a crop which can grow with little effort. Willie therefore knew that the most important agricultural practice he had to instil in them was about the value of soil status. He compiled a document to try and improve their knowledge by emphasising the fact that to achieve a higher yield, one must understand the soil. 'What you see above the ground means nothing. The soil is the factory – what you put in, you get out,' he explains. 'A good crop comes from rich healthy soil.'

'I don't think people realise how much money goes into the soil before you plant. It is a long-term goal to raise the production level of the soil and not something that happens overnight. It takes time, something you must work at constantly. One can spend up to R20 000 before reaching the right pH (phosphates and nitrogen) levels for maximum yield. You have to spend money to make money,' he explains.

A dream becomes a reality

Willie is very proud of Anton and President as they worked hard to put into practice what they had learned about soil management. Managing pH levels and knowing the type and amount of fertiliser which needs to be applied now form part of their farming practices.

In the first year they managed a sunflower yield of only 300 kg. The two then joined Grain SA on Willie's recommendation and started attending numerous study group meetings, information days and training courses. Together with mentor Willie they began their journey to become commercial farmers and realised a yield of 5 ton/ha of maize and 1,5 tons/ha of sunflower. When the season gets too busy and extra equipment is needed, Willie steps in to ensure that an extra tractor keeps the work on track. 'It is wonderful to be involved on this level,' he shares.

The Mabaso brothers were finalists in the 2018 Potential Commercial Farmer of the Year

category and although they did not walk away as the winners, Willie sees this as the highlight in their farming career and to him as mentor. He says all he did was share his knowledge about agriculture, the hard work and determination was all their own. 'As a mentor you see their improvement and hard work, but it is marvellous when other people, like the judges, note it as well.'

The next phase

The nomination has made more land available to them and Willie knows that there is a bigger work load ahead. He admires their willpower and determination to succeed and wants to help them to become completely independent farmers.

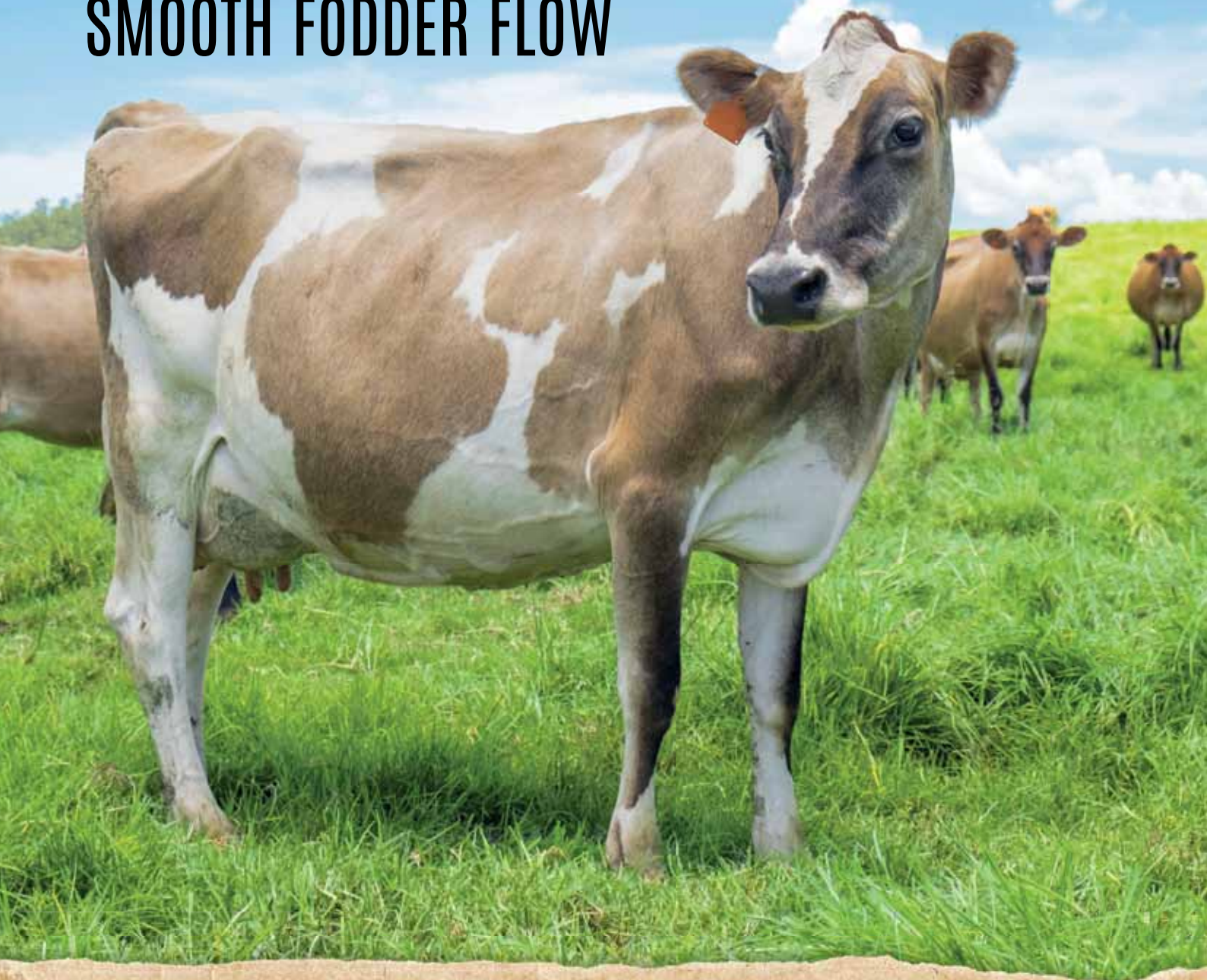
'Being business owners these two already understand finances. They are self-sufficient, planting independently and have a very good general knowledge about agriculture as well as imports and exports. Now they have to market and develop their marketing skills.' He plans on enrolling them in a course by Dalevest.

To Willie the Grain SA Mentorship Programme is a remarkable programme. He would like to see enough farmers get involved, so that developing farmers who are farming on a bigger scale than smallholder and subsistence, can get one-on-one mentoring. 'Although knowledge is crucial, value-adding comes from the support and personal involvement a mentor provides,' he mentions.

The Greek philosopher Plato said: 'The beginning is the most important part of the work,' and the method Willie Prinsloo used to turn two determined businessmen into farmers started at the beginning and as their success shows, it has proven to be a very good place to start. 🍀

This month's edition of The Corner Post was written by Louise Kunz, Pula Imvula contributor. For more information, send an email to louise@infoworks.biz.

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