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





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f you are a farmer in the winter rainfall areas (Western Cape) then we hope that you have been able to harvest your crops without too much damage from wind or rain. If you are in the summer rainfall areas, then we hope you have been able to plant your next crop successfully and that the potential for a good crop is there.

One of the biggest challenges that we are facing as farmers is the profitability of grain farming – the cost of the inputs keeps rising and yet the price of the grain we produce does not rise sufficiently to make our efforts profitable. This is a challenge to all farmers, subsistence, smallholder, developing and commercial farmers. In order to survive, we have to become ever more efficient – we need to keep our costs as low as possible, while at the same time, we need to increase our yields and ensure that we get a good price for what we have produced. It is not easy. As farmers though we are blessed because whatever happens in the world, people need food to eat and clothes to wear and we are the producers of those items – they simply cannot do without us. Thinking creatively is necessary – what can we grow that people are prepared to buy at a price that enables us to keep farming? Are there perhaps other crops that we can consider growing that will enable us to diversify our risk? It is more comfortable to keep on doing what we have always done – but if we do that, we will get the same result.

We need to look around us to see what our local community members need, what our national markets require, and then even, what the international markets are demanding. Once we know what we can sell, then we need to concentrate on how to grow that and make a profit. The motive of profit is essential because without making profits, we will not be able to continue farming.

In South Africa, our Christmas holidays coincide with the busiest time of the year for the summer crop farmers (maize, sunflowers, groundnuts, soybeans) – we cannot stop working to enjoy the holiday season. This time of year, demands our full attention – scouting for weeds and pests, spraying for weeds, applying top dressing, replanting crops (if required). If we do not use this time well, we will not get an opportunity again for another full year.

For those of you who have planned your activities well, you might be able to take a little time to rest and enjoy family time. As the Grain SA Farmer Development Team – we wish you a very blessed Christmas season and Good Wishes for 2019. Be Blessed.



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# People, partnerships and progress

Some people believe that farmers lead a quiet life pottering about on their farms and working in gentle rhythm with the seasons – but there could be nothing further from the truth!

Farming has changed. Today farming is a highly modernised system relying on new technologies and up-to-the-minute information. This creates a lot of pressure in one's environment if it's not managed properly.

#### Farmers have to wear many hats

On an almost daily basis a farmer will wear a number of hats as he is a soil scientist, veterinarian, mechanic, meteorologist and businessman. He is also a health and safety expert, labour relations manager and accountant... even an expert sales and marketing manager. A farmer is CEO and CFO of a multi-faceted business in a dynamic environment. New developments, new systems and new regulations confront him on a daily basis. This is why it is important for farmers to stay PLUGGED IN to networks which he can turn to for support, skills development and training. This is true for EVERY farmer not only developing farmers!

Partnerships will always be a necessary part of your farming enterprise. Even Bill Gates acknowledges the importance of building a business by forging helpful partnerships. He believes his success is directly attributable to the fact that **he surrounded himself with good people who** made it possible for him to build a firm foundation and upscale quickly. With other people involved you think smarter. Gates also says he looked for **people who** would complement his strengths and make up for his weaknesses.



Talk about your concerns, talk about your joys and share your hopes.

It's unrealistic to expect yourself to acquire ALL the skills necessary to do farming. Choose your community of support carefully. Gather people around you who respect you and who you trust. And keep them accountable.

#### Why build networks?

Networks are a great way for farmers to exchange information, socialise, learn and connect with fellow farmers. But networks also extend to relationships with stakeholders: A farmer forges 'partnerships' with financial institutions like banks and agribusinesses, input suppliers of fertiliser, seed and chemical and other farmers. Who do you look to for advice? Who do you allow to mentor you? Who do you need a good working relationship with? These are your 'partnerships'.

### Partnerships mean = working together towards a common goal

The Grain SA Farmer Development Programme is also a partner with many developing farmers. The common goal is to help farmers farm sustainably and produce top yields using best practices. The program has been carefully structured to create an environment for farmers to learn more and to learn fast.

We offer farmers a number of opportunities to network and learn more:

- The Study Group is the heartbeat of the development programme. It is there where we meet new farmers and where the farmers learn that we are genuinely interested in helping them in a non-threatening environment.
- The Advanced Farmer Support Programme is designed for farmers moving towards commercial farming. Expert mentors get to walk beside them and offer advice.
- The Pula Imvula magazine is an important tool which aims to spread a wide net of information. Important messages are conveyed so farmers are better informed. We trust the messages in the magazine reach many ears and serve to inspire future farmers.
- The training courses have been specifically designed to up-skill farmers as knowledge gaps are identified. The courses have both theory and practical sessions to ensure the learning is meaningful and useful.

We aim to provide each member with a supportive environment and the opportunity to equip themselves better for their farming.

## How does one build a meaningful network of partnerships?

Partnerships are a two-way process. There has to be mutual respect – even if you don't always agree on everything. Not every partnership will last forever – some are forged for a particular reason in a particular season. It is



Exchanging information, socialising, learning and connecting with fellow farmers.

also important to recognise that not all partnerships work. You must feel free to walk away from a partnership that is not helpful to you.

### What are the characteristics of a good partnership?

- Honesty there can be no effective partnership where someone is pulling the wool over another's eyes. We need to tell others why we wish to partner with them and the other parties need to be clear with their reason for wishing to partner with you. The farmer must ensure he selects well qualified experts who operate at a high level of integrity. The best way to know if a person can be trusted is to talk to other people who have had business dealings with them.
- Supportive there needs to be solid support for each other and for the common



goal. A partnership cannot be successful if the behaviour is bossy, manipulative or has a weak link in any way. Commitment to the goal must come from all involved regardless of size or strength.



If you want to go fast, go alone but...if you want to go far, go together!

- Experience it's important that there is a level of expertise within the partnerships. This is not the place to have the blind leading the blind. Choose partnerships that add vision, knowledge or empower you.
- Clear communication there can be no confusion about what you want to achieve. Everyone must understand their responsibility. Make sure you understand everything discussed and everything you sign. This is where you benefit from building a spider-web of connections in the sector. It is not always a good idea to depend on only one person for guidance.
- Keep your eye on the goal be clear about where you are taking yourself and your business. Ask yourself what you wish to achieve. When the goal is achieved you may end that partnership or refocus on new goals.
- Service successful partnerships are based on service, not selfishness. Not one person does all the work, nor is any one member seeking more recognition than the others. There is no hidden agenda.

Talk about your concerns, talk about your joys and share your hopes. Don't let your network forget you. Pitch up and be reliable. When a strategic partner has a comfortable relationship with you they will be more likely to seek solutions for challenges and be supportive of you. Remember: If you want to go fast, go alone but...if you want to go far, go together!

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

Jaco Minnaar

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## Let's reflect on OUR BLESSINGS

n today's life things happen so fast that we are struggling to keep up. We experience it as farmers especially during planting and harvest time.

It is managing the one important thing after the other, long hours, hard work. For Grain SA it is exactly the same, however it seems that it's not only a certain season, but the whole year around.

The whole debate around expropriation without compensation was also like this. We were running around, trying to get behind the facts and the reasoning. However, in this whole debate we found like minded people across the spectrum, people that could be reasoned with, people that share the same vision for South Africa.

Although from different backgrounds and a different history, we all recognised the need for faster land reform, we all recognised the current shortfalls, but we all see it essential to give all people the opportunity to own property, and then protecting their right to do so.

At the recent Land Deliberation in Bela-Bela the willingness of farmers and the innovative plans they came with astonished me and the other attendees. The lengths that people went through to help their fellow countrymen was amazing. And the difference that it made in communities.

The common thread throughout the conference however was how God led them to their decisions, how God guided them to get the right partners, or how He showed them what was needed. His hand was very clear in all this.

In reflection, the whole land debate and how things started to change since mid-June, is that there is only one explanation. God has taken control. And the more one reflects, the more we can see what's happening and how He uses people and institutions to guide and build the whole future of South Africa.

In 1 Thessalonians 5 verse 16 - 18, the Lord tells us to always rejoice in Him, pray constantly, and give thanks in everything. When we live our busy lives, we forget to rejoice in Him. We forget to thank Him, we also forget to reflect on all that He has done for us, all the blessings that we so humbly receive.

Through this Christmas time, may we use the time to reflect on a year where He has blessed us in so many ways, through good and bad, and may we pursue the assignment that He has given us through Paul!

May you have a blessed time with friends and family, may you reflect and rejoice, may He rejuvenate you for the coming year, and may His light shine upon you!

Article submitted by Jaco Minnaar, Chairman of Grain SA. For more information, send an email to jaco@compuking.co.za.

### **Pula Imvula's Quote of the Month**

Great things in business are never done by one person; they're done by a team of people. ~ Steve Jobs

# Keep the WEED ENEMY at bay

rop farmers have an enemy which shows its face throughout the growing season. This enemy is weeds. We have adopted two primary methods to try and combat this enemy throughout the years namely mechanical and chemical control.

In this article we will look at chemical control and in particular the use of post emergent herbicides on our crops.

Post emergence herbicide refers to the use of chemicals that will take action on weeds after they have emerged from the ground. At this stage they will already be absorbing sunlight and transferring this absorbed energy into rapid vegetative growth. This will have a negative effect on our crops as these weeds will be competing for the same nutrients; this is why it is crucial to burn them down by means of a chemical spray application before they get out of control. The earlier one sprays the better. Post emergence herbicides take action on the weeds by contact. This means that we want good contact of our spray droplets to be made on the leaves of the weeds. In other words, we want the chemical to stick on the weeds leaves so that as much as possible can be absorbed into the plant to destroy it.

#### Take into consideration

Important things to take into consideration when spraying post emergent chemicals are as follows:

#### Wind

It is extremely important to have little to no wind on the day that you are spraying. Too much wind will have a negative effect on the contact that the chemical will make with the weeds. This is due to the drift that will occur. If chemical drift happens you may also have the problem of causing damage to surrounding field crops that you did not intend spraying. Remember that there are specific post emergence herbicides to use on certain crops.

From a health point of view, it is also more dangerous to spray in windy conditions as more chemical is moving through the air, which if breathed in could pose a health risk. Always be sure to use the correct protective gear when working with chemicals, regardless of the wind conditions. This includes a breathing mask, gloves and protective eye wear.

#### Weather

You want a clear day with no rain when spraying your post emergent chemicals. This is important to remember as opposed to preemergent herbicides when it helps to have some rain to pull the chemicals into the ground.



Weeds have effectively been controlled in this land and is a sign of good management.



### Keep the weed enemy at bay



Weeds that are not controlled are stealing nutrients from this young crop.

On a sunny day the weeds are also actively absorbing sunlight and nutrients, therefore when the chemical comes into contact with the leaves it will effectively be absorbed.



Always be sure to do routine checks throughout the season to make sure that you keep the enemy at bay.

#### Water ratio and droplet size

This will depend on the type of chemical you are applying which is why it is very important to consult with your chemical supplier and ask for their recommendation on water ratio. In general, you usually want to apply approximately 150 litres/ha of water with a fine mist spray.



**WEED CONTROL** 

It is extremely important to have little to no wind on the day that you are spraying.



Water ratio and droplet size should be adapted according to your chemical representatives' recommendations.

In doing this you will achieve a small droplet size increasing your chemical coverage on the plant.

#### Tractor speed

One always wants to keep to a constant speed. When you do your calibration of the spray you should base your calculations on a certain speed which will be determined by the topography of your field. Try not to vary this speed as it could alter your overall application rate. 10 km/hour is an easy speed which is not too fast or too slow and it helps with easier calculations.

#### Additional

It is advisable to make use of a sticker when applying post emergent herbicides. This is an additive which you combine in your chemical mixture. This additive helps the chemical to 'stick' to the leaves of the weeds to achieve a better result. One should also consult a chemi-



You want a clear day with no rain when spraying your post emergent chemicals.

cal representative to find out the best sticker option that compliments the chemicals that you will be applying. This sticker will also help the chemical to be more resilient on the leaves even if a little rain falls after spraying.

#### What chemicals to use

As was briefly mentioned before, always be sure to use the correct chemicals on the correct crop. Certain chemicals do not work on certain crops and in some cases can wipe out your entire crop. Always be sure to consult with your chemical representative to make sure that you apply the correct chemicals to achieve the desired result.

#### Conclusion

Always be aware of what is happening in your field. Weeds can grow very rapidly and can have a detrimental effect on your potential yields if left unmanaged. Always be sure to do routine checks throughout the season to make sure that you keep the enemy at bay.

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



# Winter crop under irrigation – choose a system that suits you

entre pivot irrigation is the main method of irrigation for the production of crops and other agricultural products in many parts of South Africa. This great diversity of crops, including winter cereal crops, are found in areas within most of the major irrigation schemes in South Africa.

These are characterised with water stored in the major dams coupled with the delivery of water controlled by canal systems to each adjoining farm. For instance, the irrigated areas in the Orange River basin cover about 222 000 hectares using 2,365 million cubic metres of water per annum.

Runoff water stored in smaller private dams and water from rivers make up the balance and different irrigation systems varying from moved pipe and sprinklers, under ground grid, drag line, wheel move as well as the use of smaller centre pivots.

#### **Crops under irrigation**

The different crops found under irrigation, under the above schemes, include maize, 'popcorn' maize, wheat, barley, dry beans, potatoes, sunflowers for hybrid seed, sunflowers for commercial bulk delivery, soybeans, groundnuts, various pastures, lucern, cabbages, table grapes, apples, other fruits, wine grapes, grapes for raisins, deciduous fruit and others.

The net farm income results from maize, wheat, barley, dry beans and lucern are at the lower end of the spectrum compared with ground nuts, cabbages, potatoes and grapes. The farmer has thus many options available to choose from in deciding which crops to rotate with the winter cereals.

#### **Crop rotations**

The gross margins for each crop in a particular planned rotation must be compared to see if the input costs over several cycles makes economic sense. In the Southern Free Sate and Northern Cape irrigation scheme areas a continuous rotation of maize, 'popcorn' maize and wheat or barley, as practiced in the Taung area has been followed for many seasons. The production of barley as a winter cash crop is largely determined by the limited volume of contracts made to supply to the beer brewers in South Africa.

The plant residues between each crop, whether maize or wheat, were burnt after



Rotation beans



Rotation kidney beans.



harvesting immediately followed by cultivation, spraying for weeds and planting. This practice resulted in over 100 kg of potassium a year being removed from the soils.

Soils tests showed that an increased amount of potassium for the next crop were required to compensate for this loss over



time. The increased potassium, although a very expensive component of fertilisers, resulted in reducing the tendency of 'popcorn' maize to break or lodge before harvest. The results gave an increase of 1,5 t/ha to 2 t/ha increase in maize yields coupled with the correct amount and type of nitrogen applied.

Maize yields of 14,5 t/ha and wheat yields of 8 t/ha to 10 t/ha have been realised in one production year from the same pivot area.

Centre pivot irrigation farmers started introducing minimum tillage into different rotations well over 20 years ago. Some farmers have only recently stopped burning their wheat stubble in the Orange River. A rotation of soybeans and maize is common in KwaZulu-Natal within a well-managed minimum tillage environment. The management of the plant residues differs depending on the climate and depth and the quality of tilth and humus that happens over time in well managed soils.

The build-up of plant residues in a soybean and wheat rotation or maize and wheat rotation can really be a problem where only the very best and strong planters can operate in the heavy unbroken down stubble between continuous crops within an annual double cropping rotation. Management of this situation has resulted in farmers reverting back to the burning system which might be of immediate benefit but unsustainable over the longer term.

A solution to the excess stubble problem is the baling of the maize, wheat or barley residues between crop changes. With the short planting windows in an annual double cropping programme there must be enough baling capacity to do the job in time. On a 60-hectare pivot this implies the removal of 300 to 480 tons of wheat straw or maize residue per ha per year. Over time this will also result in a huge loss of potential plant nutrients. Farmers who compost this residue and spread this back onto the pivot lands can achieve over 16,5 t/ha average yield for maize and 10 t/ha for wheat production.

Most farms or farming operations have more than one pivot. If there are enough pivots a rotation system introducing a fallow season either in winter or summer can be of benefit to the existing production pressure on fertility and the development of an improved soil profile and tilth. It also gives management some space in which to do improved planning for improved workflow and lessens the requirement for an ever-increasing investment in large tractors and implements.

#### **Other considerations**

The planning required for the winter crop production must also take into consideration the irrigation scheduling required for each crop using SAPWAT or other programmes that help the farmer plan the required irrigation per day or cycle for maximum crop water efficiency related to the evapotranspiration rates experienced in your production area.

The planning must also incorporate the lowest cost usage pattern, in the day or night time Escom rates, to save on electricity costs. A proper programme to control weeds which can build up depending on the crops planted within the rotation system must also be considered and used.

#### Conclusion

It is evident that the planning of a rotational cropping programme on a single pivot is much simpler than planning for a farmer that is running five pivots or more in a diversity of micro production areas. In this case the introduction of lucern and other pastures, especially where small or large livestock are integrated into the long-term planning cycles can be of great advantage. The lucern or other pastures part of the cycle will assist in building soil fertility and structure and take the pressure imposed on management off the intensive continuous cropping cycle.

There are so many options available, one has to choose a system that suits individual farm managers and the special production area, climate and availability of markets for clients, corporates or co-operatives that support and purchase the products you plan to produce near you.



The gross margins for each crop in a particular planned rotation must be compared to see if the input costs over several cycles makes economic sense.

Article submitted by a retired farmer.



## **DIVERSIFICATION:** How to find the ever-changing balance

biversification could be defined as a changing strategy to introduce more products to an existing farming business so as to reduce the risk of economic failure of just one or a few enterprises.

At a very small farmer level diversification, where food security is the primary consideration, it might mean farming with a mix of food crops, cash crops and various classes of livestock or poultry. The production would sustain a family with a wide choice of nutrients and create enough of a balance of different kinds of carbohydrates and proteins from the various own produced food. Any excess products can be sold for cash and create an entry level commercial farming enterprise.

In Africa, as a continent, the greatest opportunities for diversification are located in farming areas with 500 mm to 1 000 mm of annual rainfall with a range of 17% to 22% rainfall variability.

The medium to large farmers with proven sustainable financial success will face different challenges in future. Diversification would be carried out on a much larger scale to perhaps balance out the production and financial risk associated with the existing and established enterprises.

#### **Resource assessment**

Diversification should not be done for the sake of it but started by doing a detailed assessment of your farms resources and potential for producing other products. A huge investment in a new enterprise might in fact put the established business at risk.

Irrigation on high potential soils near large human settlements or cities offer numerous possibilities ranging from dairying, cheese production, market gardening, beef production on pastures, various crops and an almost infinite number of possible farming enterprises.

Established farmers would have determined a mix of enterprises that suit their farms location, and distance from markets, soil fertility and potential within the long-term climatic conditions experienced. If there is already a mix of summer and winter crops, livestock and added value enterprises the diversification programme is probably complete.

Many farms that concentrated on mainly maize production with conventional tillage have already diversified into crop rotations with soybeans, sunflowers, sorghum, potatoes, groundnuts and wheat or barley in the appropriate areas using conservation tillage. Lands can be fallowed within the system using cover crops and methods that ensure that part of the farm land has enough moisture stored so that these portions can be planted on time or early in dry cycles. A beef livestock factor usually goes hand in hand on large maize farms.

The ruling commodity prices of the various crops will decide which crops can be introduced.

Changing production methods of the same crops is a form of diversification to lower the risk of any one crop damaging the business permanently. The very dry years have ruined large monoculture maize farmers over the past ten years. However, in the Western production areas famers tend to fall back on mainly maize production using conservation tillage methods and feel that they would rather focus on doing the one crop well. Improved cultivars have also allowed the planting of maize over a longer ideal planting window. This year very late planted maize in the Kroonstad farming area on high potential yielded 7,8 tons per hectare. This is also a form of diversification within a largely maize monoculture farming business.

The ruling commodity prices of the various crops will decide which crops can be successfully introduced into your ideal crop rotation plan. Crop rotations are now seen as one of the most important factors in financial survival as well as building soil fertility, spreading out the use of production equipment, and allowing for a balanced chemical weed control programme over changing crops.

> Diversification should not be done for the sake of it but started by doing a detailed assessment of your farms resources and potential for producing other products.

#### Commodity prices rule the roost

Maize futures on Safex for July 2019 are about R2 640/ton for both white or yellow maize. These and future prices for sunflowers at R5 210 and soybeans at R4 880 are only about 10% more than the commodity prices of ten years ago.

It is evident that only the highest potential and well managed soils will produce a positive gross margin and hopefully net margin on just about all crops for the next few seasons. Any changes to diversify must be carefully costed using Safex price trends. For those farmers who have invested huge amounts in large tractors and machinery they are



Reduce risk of economic failure by diversifying.

probably locked into their current production patterns for the next few years.

#### Added value enterprises

Maize can be used to add value by feeding weaners, thinner mature beef animals, sheep or poultry enterprises such as layers or producing broilers being some of the more viable options. Adding value to maize by diversifying into these enterprises should be very carefully analysed as the huge capital cost to establish and enter these markets at a commercial scale is quite daunting. The skills required to run them at a profit must also be acquired over many years.

#### Conclusion

Consider diversification but be very careful in deciding which enterprise in which to invest.

Article submitted by a retired farmer.



# **ON THE HORIZON FOR WINTER CEREALS...**

his article gives a brief overview of what the 2018/2019 marketing year looks like for wheat and barley, in terms of production, supply and demand.

#### Local wheat production

Over the years, the area planted under wheat has been on the decline due to decreasing profitability. Despite all that, the crop estimates show that area planted to wheat will increase from 491 600 ha in 2017/2018, to 508 350 in 2018/2019 (**Graph 1**).

The expected commercial wheat production is about 1,808 million tons in the new season, with a yield of 3,363 t/ha. The expected production in the Western Cape is 890 400 tons, this is a 51,7% increase from the previous marketing year, with a marginal decline in production area from 326 000 ha to 318 000 ha. The Free State is showing an increase of 31% in hectares from 80 000 ha to 105 000 ha, with an expected production of 367 500 tons.

The total **supply** of wheat is projected at 3 951 724 tons for the 2018/2019 marketing

Graph 1: Wheat production and area planted in South Africa.



Source: Grain SA (2018)

Graph 2: Barley production and area planted in South Africa.



season, including opening stock levels of 731 624 tons on 1 October 2018, with local commercial deliveries of 1,81 million tons, whole wheat imports estimated at 1,4 million tons.

The total **demand** for wheat is projected to remain consistent with the previous season, at 3,3 million tons. This includes 3,180 million tons processed for human consumption and 3 000 tons processed for animal consumption. A projected export quantity of 35 000 tons processed products and 80 000 tons whole wheat for the new season.

The projected **closing stock** level at 30 September 2019 is estimated at 626 624 tons; with an average processed quantity of 265 250 tons per month, this represents available stock levels for 72 days.

> Barley for food consumption is expected to increase in the 2018/2019 marketing year.

#### Local barley production

Compared to the previous marketing year, the area harvested is estimated to increase from 91 380 ha in 2017/2018 to 119 000 ha in 2018/2019 (**Graph 2**). Production is also expected to increase significantly from 307 000 ton to 390 840 tons in the new season, with a yield of 3,28 t/ha.

Opening stocks as at 1 October 2018 was 199 000 tons, we expect about 19 000 tons less on 1 October 2019. Imports for the 2018/2019 marketing year are expected to drop to about zero compared to 13 000 tons the previous season.

Regarding **demand**, the majority of malting barley is used for food in South Africa with a minor amount used for feed. Barley for food consumption is expected to increase in the 2018/2019 marketing year, from 300 000 tons to 333 000 tons, with feed barley up from 7 000 tons to 11 000 tons.

Barley exports remain at zero with barley product exports expected to increase from 18 000 to 20 000 tons. **Ending stocks** are projected to decrease from 179 900 tons to 128 200 tons on 30 September 2019, which would be 86% above the pipeline requirements, covering 42 days.

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

Source: Grain SA (2018)

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## Become a PROFESSIONAL FARM MANAGER

n the November Pula Imvula we discussed the influence of leadership as an important management function of a manager on a business. In this article the focus will be on certain other broad skills a manager needs to apply for his/her business to be a success.

We will look at management from a broader perspective because a manager does more than to merely plan, organise, implement and control. The focus in this article is on certain skills and not on management functions.

When a person starts a business, such as farming business, he/she takes on the role of Chief Executive Officer (CEO) and begins to manage the business by planning, organising, implementing and control – the management tasks. Whilst attending to the management tasks the CEO must also consider the management functions of decision-making, communicating, motivating, co-ordinating, delegating, maintaining discipline and leading.

Regarding the four management tasks top management should spend most of their time on planning and controlling, middle-management on organising and controlling and first-line management on implementing and controlling.

When on his/her own the owner/manager or the CEO perhaps does not pay attention to all these management functions. However, should the business grow, and employees are appointed, more attention will have to be paid to these functions.

As more and more employees are appointed, the more the CEO realises the need to appoint employees as managers, thereby creating a hierarchy of managers.

Broadly speaking there will be three levels of management in a business. As a business expands, the first level of managers to be appointed will be so-called first-line managers. They are the lowest level of management and are frequently called supervisors or foreman or team leaders. They are appointed to take on the day-to-day burden of implementing plans and controlling human and other resources to help the business to perform effectively.

Eventually, as the business grows more the second level of managers could be appointed, so-called middle managers who will supervise one or more first-line managers. They will focus more on organising and control of resources. Middle managers have titles such as Head of a Department, Farm Manager, Factory Manager, and so on.

And then eventually so-called top managers could be appointed with titles such as Managing Director or Divisional Manager. Top managers are appointed and together with the CEO become responsible for planning, identifying and selecting appropriate objectives and courses of action.

Apart from all other skills required, all employees on one of these levels of management requires three additional and exceptional skills to be successful as managers, whatever the level. These skills are conceptual skills, human skills and technical skills.

Conceptual skills are demonstrated in the ability to analyse and diagnose and solve a

situation in such a way that it will have long term positive effects on the business. Top managers require the best conceptual skills, because their primary responsibilities are planning and organising. With the CEO, top managers must think about the future of the business – where do they want the business to go. They must think about the way forward for the business and plan accordingly.

*It is quite clear because* of the increase of the population and the resultant increase in the demand for food as well as changing preferences, South Africa will need professional farm managers to supply the increasing demand.

Human skills include the ability to understand, alter, lead and control the behaviour of other individuals and groups. It also includes the ability to communicate, co-ordinate, delegate, motivate people and to maintain discipline. Human skills are needed by all levels of managers.

Technical skills are the job-specific knowledge and techniques required to perform an organising, implementing and controlling role in the short term, day-to-day. Examples include specific production skills, marketing and accounting skills, skills required more by firstline managers.

All managers require these three skills but the time they spend using a specific skill in their working environment varies as indicated in **Table 1**.

#### Table 1: Skills required by managers.

Top managers			
Middle managers	Conceptual skills	Human skills	Technical skills
First-line managers			





Regarding the four management tasks top management should spend most of their time on planning and controlling, middle-management on organising and controlling and first-line management on implementing and controlling (**Table 2**).

If or whilst you are on your own you are required to apply conceptual, human and technical skills on your own to make a success of your business. It is really a tough job. As your business grows and you employ more people this will change because you will eventually employ managers to assist you. When analysing management, it becomes clear that the management tasks (plan, organise, implement and control) and the management functions can be learned and developed by training and applying it practically. This can be done to such a level that to manage becomes a profession.

Why then this discussion of management? It is quite clear because of the increase of the population and the resultant increase in the demand for food as well as changing preferences, South Africa will need professional farm managers to supply the increasing demand. This applies to whether you are farming on your own, a small farmer or whether you are a mega farmer. Therefore, are you on your way to becoming a professional farm manager?

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





# Taking a closer look at POST-HARVESTING MARKETING

Arketing is one issue that plays an extremely critical role in the profitability of modern farming, and should therefore not be underestimated. Various instruments are available in the grain industry to facilitate the marketing and price-risk management of grains – including the use of derivatives on Safex.

#### What is post-harvest marketing?

Prices on the local grain markets are extremely volatile and the production of grain in South Africa is subject to considerable risks. These risks cover from personal up to price and financial risks, and everything in between.

Price risk is one of the few risks from the many that producers face that can be managed to a great extent. That is why producers should avail themselves of the different instruments that are available to manage price risk and the marketing of grain more effectively.

In most cases when we refer to the hedging and marketing of grain, the first association is that of using Safex futures and options for hedging purposes. Pre-season hedging plays a relatively important role in the marketing of grain and it is essential for producers to strongly consider using the good opportunities in the market for pre-season hedging. It is also important for them to keep in mind that this is not the only form of marketing and hedging that can be employed.

Marketing of grain can be divided into two main categories, namely pre-season marketing and post-season marketing, or rather postharvest marketing.

If producers for whatever reason do not have pre-season hedging in place, they are left with the challenge of selling their grain at the market prices that prevail during the harvest period. This is usually when prices under normal circumstances trade lower than the annual average price.

Producers should particularly be familiar with the different marketing alternatives that can be considered and employed in order to benefit if the market trades more favourably during the course of the season. These alternatives can contribute to a higher price and better profitability. The main aim of post-harvest marketing of grain is for producers to obtain a better price for the grain produced. This can be accomplished through various alternatives, ranging from the physical storing of grain to the use of derivatives on the Safex market.

> Pre-season hedging plays a relatively important role in the marketing of grain and it is essential for producers to strongly consider using the good opportunities in the market for pre-season hedging.

These strategies will be discussed in more practical terms later in the series. Producers should remember that risk management is still vital when using these approaches. Although the production risk with post-harvest marketing is considerably lower for producers because









they then know already how many tons they have available to sell, they still have to try and obtain the highest possible price with the fewest possible risks associated with it.

### Where should you look for opportunities?

Although local market prices are in most cases affected to a great extent by international prices, the local context displays clear seasonal and cyclic price trends. Under normal circumstances local prices, which are mainly driven by supply and demand, like any other aspect of the economy, offer good pricing opportunities during different periods of the season.

Figure 1 is a schematic presentation of the critical periods throughout the season, and these are usually also when the market is watched closely for marketing purposes.

When we look at summer grains, it is clear from Figure 1 that the prices normally trade at relatively lower levels during May to August. This is the period when most of the summer grains are harvested and the supply is higher during this time – which keeps the prices under pressure.

Oilseeds like soybeans and sunflower are usually harvested earlier than maize, with May being the month in which most of the harvesting is done, depending on when the grains were planted. The harvesting period for maize also largely depends on the planting date, but most of the maize is usually harvested in June and July. From the middle of September the planting of summer grains commences, and the market starts reacting more sharply to weather conditions in particular, which offers good support to the markets. This is also when prices are normally higher than during the harvest period.

The other critical period in the summergrain markets is during pollination. Sufficient moisture is important during this part of the season so that pollination can take place. This is a critical time that can be a significant factor for the yields that are obtained.

Under normal conditions, March/April is also the period when the stock levels of summer grains are lower than during the rest of the year, as this is when the stock from the previous season becomes depleted and the stock from the new season is just entering the market.

 It is important for producers to realise that the market can offer good opportunities in the course of the season to spread out the marketing of grain.

The critical periods in the winter-grain market are also shown in Figure 1, with planting ranging from roughly the middle of April up to the middle of July, depending on the location. The harvest period ranges from the end of October to the end of December/beginning of January, with the critical time for adequate rain and moisture being September. The critical period when the local stocks are a bit low is during September and October.

South Africa is a net importer of wheat and the volatility of the wheat market is not always as high as for maize and oilseeds. The wheat market also trades in a narrower band – more or less in line with the import parity price.

#### In conclusion

It is important for producers to realise that the market can offer good opportunities in the course of the season to spread out the marketing of grain. In this way they can prevent most of the grain from being sold during the harvest, and not utilising the possible opportunity of obtaining a better price for the grain at a later stage.

Although the market can offer relatively good opportunities under normal circumstances, it will not always be the case, and producers must also take into account the specific fundamental factors that play a role in the pricing.

Article submitted by Luan van der Walt, agricultural economist, Grain SA, for SA Graan/Grain February 2018. For more information, send an email to luan@grainsa.co.za.



## **OUTSMART FUNGI** from infecting and colonising your maize

he fungi that produce mycotoxins in grain are broadly placed into two groups: Those that invade before harvest, commonly called field fungi, and those that occur only after harvest, called storage fungi.

Examples of economically important toxigenic field fungi of maize are *Fusarium verticillioides* and *F. graminearum*. An example of an economically important storage fungi is *Aspergillus flavus*.

These fungi can produce mycotoxins called fumonisins (*F. verticillioides*), deoxynivalenol and nivalenol (*F. graminearum*) and aflatoxins (*A. flavus*) respectively. Furthermore, *F. graminearum* can produce an estrogenic metabolite called zearalenone. Fungal infection and colonisation of grain can lead to poor grain quality, whereas mycotoxins can have a negative health impact on humans and animals.

Through our current research, there is a concerted effort to reduce fungal infection, which in turn will lead to a reduction in mycotoxins. In order to reduce fungal infection of grain we need to understand the different mycotoxigenic fungi.

For a fungal disease to occur pre-harvest, there have to be inoculum present (fungal spores), the environmental conditions need to be favourable (humidity, temperature, rain, wind) and the host plant needs to be present. To make it more complicated, these requirements differ from one fungi to another.

After harvest, when grains or seeds have become moribund or dormant as a result of drying, associations between fungi and plants disappear and physical factors dictate if storage fungi will colonise grains. The primary factors influencing fungal growth in stored food products are the moisture content (more precisely, the water activity) and the temperature of the commodity.

In South Africa, *A. flavus* is not a problem in commercial maize grain. Our main research focus is therefore on *F. verticillioides* and *F. graminearum* and the mycotoxins that they can produce. Through continued funding by the Maize Trust and National Research Foundation with local and international collaboration, our mycotoxin research commenced at the ARC-Grain Crops in 2010 with Prof Bradley Flett, Drs Belinda Janse van Rensburg, Aneen Schoeman and Edson Ncube.

Since then seven research projects were completed, with nine scientific publications,

38 popular articles, eleven radio broadcasts, 69 industrial reports, 21 international conference presentations and 28 national conference presentations emanating from these projects.

Altogether five Honours students, five MSc students and five PhD students were successfully trained at ARC-Grain Crops. In this article some of the highlights of our research regarding *F. verticillioides* (Photo 1) and resultant fumonisin production in maize grain will be shared to emphasise the importance of continued research and the benefit thereof to maize producers.

A study was conducted by Dr Schoeman to determine whether endophytic (symbiotic

association with the maize plant) and pathogenic (disease causing) isolates from distinct maize tissues differ in their ability to cause disease and produce fumonisins. Both endophytic and pathogenic F. verticillioides isolates tested were able to cause ear rot, despite the tissue they were collected from.

We continued to study the natural occurrence of fumonisin producing *Fusarium* spp. and fumonisin contamination of maize in 29 maize production areas of South Africa. Higher fungal infection and fumonisin concentrations were associated with warmer production areas such as Northern Cape, North West Province and some areas of the Free State where the



F. verticillioides colonising a maize ear

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average temperatures ranged from 29°C to 32°C.

In the cooler areas of Mpumalanga, KwaZulu-Natal, Gauteng and some areas of the eastern Free State, where mean maximum temperatures ranged from 24°C to 27°C, fungal biomass and fumonisin levels were absent or low.



The primary factors influencing fungal growth in stored food **CC** products are the moisture content and the temperature of the commodity.

With this information, prevailing weather conditions, F. verticillioides infection and fumonisin production were studied further. Research showed that maximum temperature and minimum humidity at one to 14 days post-silking





Busseola fusca damage on a maize ear. Photo: Dr Annemie Erasmus

is the most favourable for F. verticillioides infection. A statistical model showed that colonisation of maize tissues during the early postsilking stage and the dough stage of grain fill is favourable for fumonisin production.

A study by Dr Ncube showed that Bt-technology decreased the risk of B. fusca damage. This is of importance because it was also illustrated that B. fusca not only vector F. verticillioides. but other ear rot and mycotoxin-producing fungi.

It is proven for the first time under South African conditions, that stressors have an effect on F. verticillioides infection and fumonisin production. A decrease of F. verticillioides infection in maize ears was recorded with an increase of plant density where soil nutrients were lacking (subsistence or small-scale farmers).

Although there is not an increased risk of ear rot infection, yield was still compromised. The opposite was observed where F. verticillioides infection in maize ears and fumonisins increased as plant densities increase. This places commercial producers with high plant densities at risk for an increase in fungal infection and fumonisin contamination.

#### A management strategy to reduce F. verticillioides

From our research, it is evident that an integrated management control system needs to be applied to reduce F. verticillioides infection and resultant fumonisin production in maize grain.

Because F. verticillioides isolates do not differ in their choice of infection (roots, crowns, stems, ears) it is important to keep inoculum levels low by means of sanitation practices. Remove maize stubble and weeds on which the fungi can overwinter. F. verticillioides prefer warm, dry conditions for infection and maize plants is most susceptible to fungal infection post-silking. Maize in warmer areas can be planted later in the season, and irrigation one to 14 days post-silking can reduce fungal infection.

ARC-Grain Crops is currently screening hybrids and cultivars for resistance, but in the meantime, producers can make use of Bt-technology, which decrease *B. fusca* damage. These stem borers are vectors of F. verticillioides and spread the fungal spores as they move on the maize plant. They also inoculate maize plants with the fungi as they feed on the stems and ears.

It is important to choose cultivars that is adapted to the environment and to use plant densities responsibly as it was proven that F. verticillioides and fumonisins increase as plant densities increase. Through science, we are jointly responsible with producers to achieve high yields and still produce good quality grain, which is safe to consume by end users.

Article submitted by Dr Belinda Janse van Rensburg, ARC-Grain Crops, Potchefstroom, for SA Graan/Grain February 2018. For more information, send an email to BelindaJ@arc.agric.za.



Solution of the second second

The different yield potentials should form the basis of precision farming, and the norm against which yields should be measured. The benefits of precision farming are communicated to producers repeatedly, but measuring these benefits is not easy because the main element of precision farming is still not taken into consideration.

With precision farming one first of all thinks of the application of lime or fertiliser according to a soil chart or expected yield chart, but in practice there are a number of other levels where precision farming can make a major contribution and that should therefore be in place. Sometimes it is the little things that can make a big contribution to the yield.

Despite this fact and technology, a large number of producers still use average or field yield to determine the levels of fertiliser application. Only one application level that is used overall can lead to over- or under-fertilisation.

#### Fertilisation and liming

Precision farming practices make it possible to apply fertiliser according to the potential of the soil, thus managing each section for optimum production. In practice, the same quantity of fertiliser – or perhaps a little more – will be applied to a field, but the distribution will differ dramatically and the production of the field will be optimised.

With liming a precision analysis can make a dramatic difference between the type and amount of lime required and the average amount required. With respect to precision farming the total amount of money spent on fertiliser will not differ dramatically, but the yield of the crops should increase drastically, so that the profitability of the field will increase radically.

Calculations made by comparing a 100 ha farm managed according to the average yield with the results for the same farm when precision farming is applied revealed that the income increased by 8% and the costs by 4%, but the profit rose by almost 14%. This increase is surely sufficient to finance most of the new technology required?

Fertilising is one of the aspects of precision farming, but the placement of the kernels by the



Ears of the 30 000 correctly spaced treatment that were harvested over 2 m. The average weight of the ears was 218,05 g, and the yield was 7,58 t/ha.

planter play just as big a role in maximising the yield. Constant inter-plant spacing is an aspect that is too easily overlooked and is a silent profit thief.

#### **Planter**

For maize to produce optimally, the plants must be spaced exactly the same distance apart. Where the plant establishment in the row becomes high, this aspect becomes even more critical. On the basis of a statistical trial in Bothaville in the 2016/2017 production year, which compared the constant and correct plant establishment (30 000 plants per hectare with 25 cm in the row) with a variation in the plant establishment (30 000 plants per hectare with non-constant spacing) and a lower plant establishment (25 000 or 30 cm in the row), the following yield differences were obtained:

**Photo 1** shows the ears harvested over a 2 m strip in the precisely planted section (30 000 with plant spacing of 25 cm). Note how uniform the ears are – and the average weight is 218 g per ear.

**Photo 2** shows the same plant establishment (30 000) with a varying inter-plant spacing. Note how much the ears differ. The average weight is 197 g per ear.

**Photo 3** shows the ears harvested over a distance of 2 m. Here the plant establishment is 25 000 and the inter-plant spacing is 30 cm. The average weight in this case was 219 g per ear.

The outcome of these ear weights and plant establishment is that the yields between the

treatments differed dramatically. Where the establishment was correctly planted and there were 30 000 plants per hectare, the margin above seed costs was calculated at R13 961,82/ha. This is R1 380,55 (10,02%) more than where the spacing was wrong, and R1 518,05 (11,29%) more than where the establishment per hectare was lower.

This trial once again proves that the placement of kernels is critical. Make sure that the planter's seed measuring mechanisms are correct and that the seed has been placed correctly. If possible, also make sure that the closing wheels are set correctly to ensure that the seeds emerge at the same time in order to improve the yield.

Precision farming also includes using the right seed. Not all cultivars will perform equally well in all soil potentials. Some cultivars will perform better in high-potential soil, while others will produce a better yield in low-potential soil.

It is important for producers to assess the cultivars according to their potential values as published in the Maize Information Guide by ARC Grain Crops. Here the yield probability values are very important for supporting producers in their decision.

There are planters that are already equipped to handle this variation in cultivars. Research that was conducted in America shows that there might be something in this practice. According to independent trials conducted by the research company Beck's, there is definitely a yield increase if more than one cultivar is planted in a



field. Considerably more research still has to be done to allow cultivars to be selected more carefully and provide a better description of the employment of the cultivars.

#### Weed control

Saving on herbicide can increase the profitability of any system – provided the efficiency of the product is not compromised and it does not promote herbicide resistance.

Precision equipment that activates the sprayer to spray only green plants has been available for some time. Various firms market equipment that can spray only green weeds with the right dosage and that will not spray if there are no green plants.

It is a major challenge to determine the costeffectiveness of the equipment. The amount of weeds to be sprayed will determine the costs, but if the matter is argued logically, a bigger saving should be realised over time.

Row-focused spraying is another way of controlling costs. If the sprayer is equipped with two rows of spray nozzles that are supplied separately by two tanks, certain herbicides can be applied only in certain locations.

This step can significantly reduce the amount of herbicide or pesticide that is used, and can benefit the crop where the yield can be increased. Think of the effect if Roundup is not sprayed within the foliage of the plants, but in the paths where it can kill the weeds properly. More attention can be given to the specific use of spray nozzles. These days there are many types of nozzles available. Make sure that the right one is used for the right task. The new nozzles that can spray 360° inside and below the foliage of the crops are to my mind a step in the right direction.

#### Implements

Tractors are an enormous capital expense for any farm. By increasing the effectiveness of this investment, you can definitely reduce the cost per unit. In this case the equipment on the tractor that can increase the driver's efficiency, effectiveness and accuracy is vital.

Auto Steer is a way to increase the efficiency of the tractor. The tractor will always drive in the right place to prevent double work or banks, which means a significant saving.

If we assume that a tractor can tow a 6 m implement and that it works effectively for a width of only 5,5 m, such a tractor uses 40 litres of diesel more to cultivate 100 ha. The cost should be about R12/ha higher. This may not sound significant, but it is the small things that allow the costs to mount up.

Precision farming also plays an important role in the operation of the harvester. The harvester table deserves special attention. It is worth nothing if you produce the most maize per hectare, but it does not land in the trailer.

Make sure that the harvester picks up the ears and deposits the kernels in the tank without waste. One ear on the ground is money out of your pocket, and you are the only one who will pay for it. The harvester must also be able to accurately collect the required yield data and make it available for further processing.

#### Labour

In order for precision farming to work, you as producer must also accept it. You must get your workers to buy in and make sure they do their part. This means that you and they will have to pay more attention to big and small things.

It does not help you to have all this technology on the implements and equipment, crop satellite monitoring charts, harvester charts and who knows what else and you do nothing with the data. You must use this information in your planning, measure yourself against the charts, look for mistakes and actively identify solutions to the challenges. This information will contribute towards more cents jingling in your pocket.

Article submitted by Pietman Botha, SA Grain contributor for SA Graan/Grain December 2017. For more information, send an email to pietmanbotha@gmail.com.



Ears of the 30 000 poorly spaced treatment that were harvested over 2 m. The average weight of the ears was 197,54 g, and the yield was 6.89 t/ha.

Ears of the 25 000 correctly spaced treatment that were harvested over 2 m. The average weight of the ears was 219,07 g, and the vield was 6.72 t/ha.



# INNOVATION - a top priority

oyal Monsanto Legacy farmers with concerns about how focussed the future Bayer will be on agriculture, can rest assured that agriculture (Crop Science and Animal Health) are now the largest of the three divisions in Bayer.

Jesús Madrazo, Bayer's Head of Agricultural Affairs and Sustainability explains, 'Bayer's acquisition of Monsanto strengthened the company's position in agriculture globally and the company can now be considered as a world leader in the sector. Together we're shaping agriculture to benefit farmers, consumers and our planet whilst this accelerates our efforts to achieve the bigger Bayer purpose of Science for a better life.'

Madrazo continued by saying that the combined company's extended footprint and product range, stand to benefit farmers from all over the world. Their knowledge of global markets and recognition that a tailored approach for each market and customer segment is required will drive Bayer to find specific solutions through innovation, sustainability and digital transformation.



### I am excited to be part of the new Bayer and proud to serve agriculture.

During his recent visit to South Africa, Madrazo shared his 'accidental' agricultural journey, 'Like most good things in life it was never planned. After obtaining my legal degree, I applied for an advertised position at Monsanto in 1999. I applied on-line, something that was totally unheard of in those days. They liked what they saw and appointed me as Legal Director for Latin America North. Through the years I moved away from the legal side towards the business side and served Monsanto for the past 19 years.' He held the position of Vice President and Monsanto's Commercial and Global Supply Chain Lead prior to the Baver/Monsanto acquisition.

He continued, 'I am excited to be part of the new Bayer and proud to serve agriculture. I want to play my part in ensuring future global food security and for that, there is no better place to be. There are no better opportunities and no greener pastures.'

Madrazo had the opportunity to be a speaker at Agri SA's recent congress and shared his vision for the future of farming with agricultural industry leaders and farmers present. He assured the



Japie Grobler, Chairman Agri Securitas Trust Fund and Jesús Madrazo at the Agri SA Congress held in Pretoria recently.



Kobus Steenekamp, Commercial and Operations Lead at Bayer SA, Japie Grobler and Jesús Madrazo. Bayer contributed R1 million towards the Agri Securitas Trust Fund.

audience of Bayer's commitment to an increased focus on innovation and digital transformation for the benefit all farmers and emphasised how important sustainability is for the company.

He greeted with these words, 'I look forward to working with you all as we help to shape the future of agriculture together and we make South Africa an agricultural example for the rest of the world.'

Article submitted by Hanlie du Plessis, Media Consultant. For more information, send an email to hanlieduplessis@telkomsa.net.

# The Corner Post

ZOLISWA MDIKANE Changing poverty through opportunity

eing raised by unemployed parents led Zoliswa Mdikane (25) to her decision to study agriculture. Zoliswa hails from a deeply rural area, Tshisane, near the town Tsolo in the Eastern Cape, which is approximately 40 km from Mthatha.

'In the Eastern Cape our gold is in the soil – planting is how we can make a living without being employed,' she shares about the important role agriculture plays in this region. The area consists mostly of subsistence farmers who farm with maize, vegetables and domestic livestock for own consumption.

#### Applied knowledge is power

Zoliswa realised that to make a difference to poverty in the area where she was raised, she had to increase her limited knowledge about agriculture. 'The poverty is immense in this area and I knew that if I were to study agriculture I would be able to create employment without having to rely on others to employ me.'

She obtained a diploma in animal production at Fort Cox College of Agriculture and Forestry in Middledrift in 2014. Unfortunately, she was one of the many who discovered that a diploma or degree does not guarantee a job or an income. This determined young lady was however not deterred when she couldn't find a job. She joined a group of the farmers who had started planting maize. This decision eventually led to her path crossing with that of Grain SA provincial co-ordinator in Mthatha, Sinelizwi Fakade, an interaction which had an immense impact in her life.

In September 2017 Zoliswa received an amazing opportunity to be part of the first group of graduates to participate in the Grain SA Internship Programme where she would receive training to become a junior mentor. This programme is a joined partnership between Grain SA and the Department of Rural Development and Agrarian Reform (DRDAR).

Through the programme the interns can obtain much needed experience in the field, better equipping them for their future careers. On the other hand, Grain SA Farmer Development is given the opportunity to train the calibre of mentors needed in the field for future farmer development in the deep rural areas, like the one from which Zoliswa hails.

During the internship Zoliswa had to attend a variety of Grain SA farmer training courses in grain production with the other participants. These courses have a good balance between theory and the practical application thereof and form an integral part of the internship.

The three areas where she found the most benefit are:

- Interpersonal skills. Apart from learning about agriculture the programme incorporates other learning opportunities and skills development activities, like social facilitation tasks, which include study group meetings, farmers days and advanced farmer encounters. They also accompany a mentor to experience first-hand what is done in the field to improve the agricultural practices of the mentees. Zoliswa says she now feels equipped to deal with people of different ages, backgrounds and personalities.
- Calibration of implements. Having had no exposure to mechanisation prior to the programme, she found this area – learning how to calibrate planters and boom sprayers to plant and fertilise – both challenging and exciting.
- 3. In-depth maize production. This part of the course covered a variety of subjects to prepare the junior mentors to better equip the farmers in the field. From soil preparation, the different stages of growth, how much water is required for maize to grow as well as the marketing side of maize production, gave Zoliswa good insight into the basics needed for successful maize production.

#### Putting knowledge into practice

According to an English philosopher, Herbert Spencer, the great aim of education is not

 In the Eastern Cape our gold is in the soil – planting is how we can make a living without being employed.

knowledge, but action. After the completion of the internship Zoliswa passed her written exam with flying colours and could now take her first step as a working individual.

With the necessary tools in hand she couldn't wait to spring into action and currently oversees four study groups on a weekly basis. Presently they are busy with input deliveries, giving lectures on basic maize production, the different growth stages of maize and the importance of soil preparation.

Although the farmers were doubtful of this young lady initially, her knowledge about agriculture impressed them and she was quickly accepted by the 99 Xhosa speaking farmers. 'It is difficult for a woman and youngster to be accepted in this field, but once the farmers saw that I knew what I was talking about I was easily accepted.'

Zoliswa is intensely grateful to Grain SA, Sinelizwe and the DRDAR for this wonderful opportunity. She feels it would be such a wonderful achievement if this programme was to expand into more regions of the Eastern Cape, creating more employment opportunities for youngsters as they get exposed to agricultural knowledge. They can either transfer the knowledge or even become farmers themselves. 'As a country suffering from unemployment and hunger, it will be wonderful for others to be equipped with this information. This will ultimately be a key factor in fighting poverty,' she says.

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.

# A FUTURE OF PROSPERITY

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