

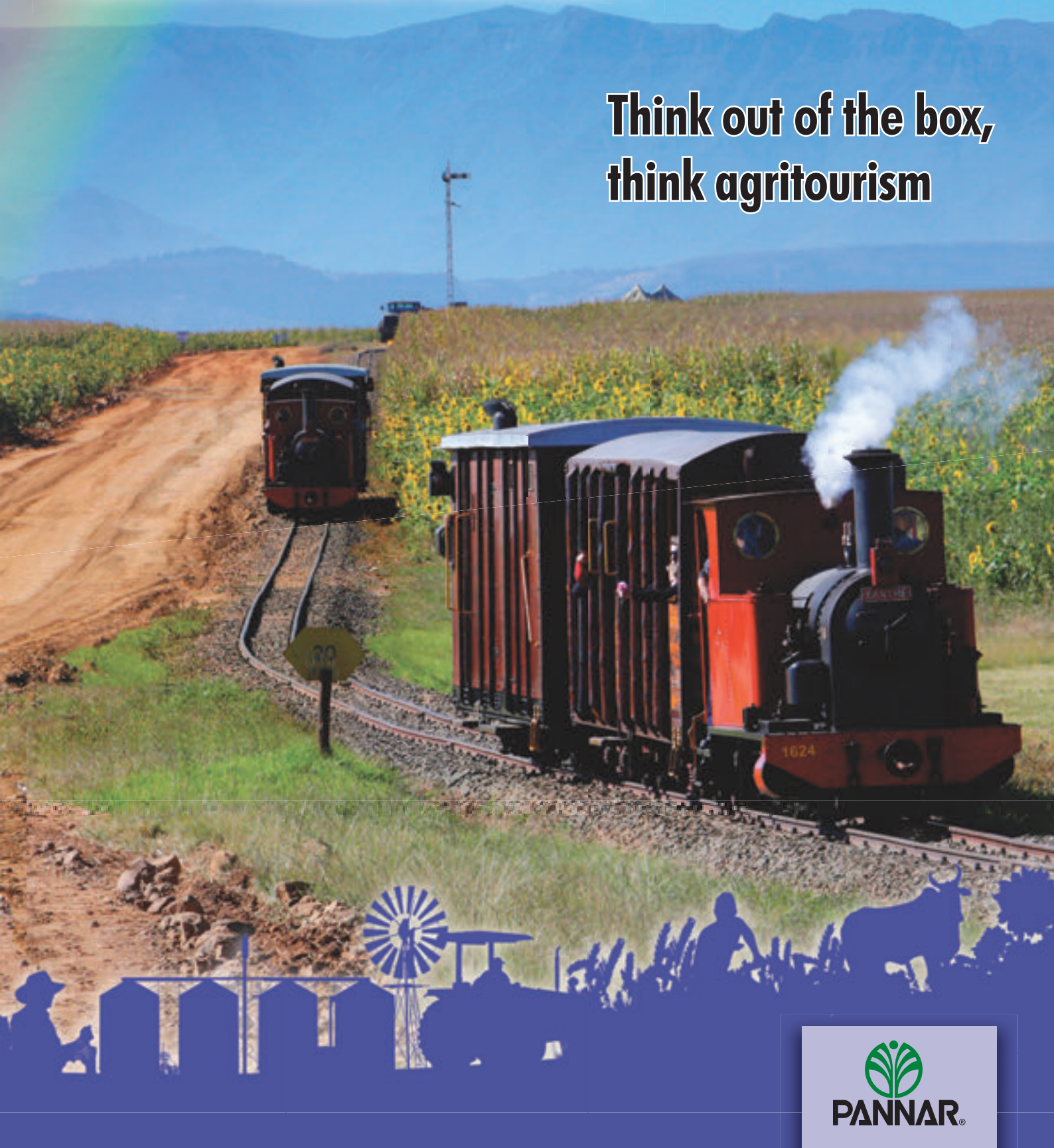
PULA INVULA

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



MARCH
2017

**Think out of the box,
think agritourism**



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NKGONO JANE SAYS...



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Farming is the same each year and yet farming is totally different each year. This time last year we were in the grips of the worst drought in living memory and the prices of the summer grains were rising. This year we have experienced good rains and the crops are very promising – now the prices are dropping.

When we ask farmers 'would you like a poor crop at a high price, or a good crop at a lower price', the farmers always choose the latter. At least you have been rewarded for your efforts and you have some bargaining power. Also your belief in yourself and your abilities as a

farmer has been restored. Yes, the challenge this year is to market to your best advantage.

Most of the farmers who are part of the Jobs Fund project are also expecting a very good crop – for many farmers attaining a good commercial yield is a start for them. Attaining the best possible yield with the natural resources at your disposal is our measure of success.

We cannot influence the size of the land available to each farmer, but with good training and mentoring, as well as access to good inputs, even the smallest farmers can achieve a good yield. This ensures household food security and also contributes to the national food

basket. We must all do the little we can do and the sum total will be great for our country.

Giving is one of the great privileges in life – to be able to give of what you have. In a year of surplus, we are all afforded the opportunity to give to those who are less fortunate. There are so many people in our country who do not have enough – you are not able to help them in a way that may be easier for you than last year.

Please look around and be aware of the elderly and the young who may be reliant on your generosity for their survival. Much has been given to the grain farmers this year and much will be expected from us – we are able to feed our country. What a Blessing!

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Front page photograph taken by
Johan Norval for the Grain SA/Sasol
photo competition

Think out of the box, think AGRITOURISM



(Grain SA/Sasol photo competition)

Photo 1-3: Tourism is one of the fastest growing businesses in South Africa.

You will be justified to ask the question: Why an article on tourism in agriculture? To motivate – over the shorter term the recent drought, has once again emphasised that droughts are part and parcel of the South African environment and is a risk which needs to be managed to at least soften the blow of droughts.

Secondly the challenges of agriculture in South Africa are becoming more and more. Our farmers are experiencing challenges with regards to their farming businesses all the time. We experience political insecurity, marketing challenges and a cost-price squeeze to name but a few challenges. Thus, in the business world of today, especially agriculture, the business environment is ever changing and shifting making survival very difficult.

In previous articles we have emphasised the aspect to diversify your business to address these challenges. Investigate to diversify your business into a few enterprises aiming to increase your income and manage risks. The advantages of diversifying – improved cash-flow, spreading of risks, increasing of profit – outscore the disadvantages. If you do not consider to diversify your business you will battle to survive as a farmer in South Africa. To establish an agritourism activity on your farm is an alternative to the normal way of diversifying.

Normally diversification entails a combination of farming enterprises that are not subject to the same risks. For instance, diversify into crops that have different growth periods and are not equally susceptible to drought. The ad-

dition of a livestock enterprise will have a great effect on lowering risk. The more diverse enterprises are, and an agritourism activity is just that, the more risks are countered.



(Grain SA/Sasol photo competition)



As of late, reports indicate, that farmers who are surviving the difficult business environment, are the ones that think out of the box. They have all realised that they need to do something else to ensure the survival of their farming businesses. The one aspect that has come to the fore is agro-tourism. Why?

The needs of tourists, being local or international, are changing as shown by research. Tourist want to do something else, they are looking for 'different' experiences outside the urban environment. Tourists often also want to buy locally produced articles and goods. Consumers have also become much more aware of the fact that food needs to be produced eco-friendly and according to good agricultural practices and they want to experience this. Thus, the need to visit farms and see for themselves is on the increase. Capitalising on agritourism opportunities can assist farmers to generate more income and can become a lifeline for those struggling to keep their farming businesses profitable.

Farmers often think they do not have the capacity and resources (funds, property, staff or activities) to open their farms to visitors. However, you do not need five-star accom-

modation or complex activities to attract tourists especially the younger generation. Concentrate on extraordinary and friendly service delivery and see to it that whatever you do is done at a high standard.

Farmers who do not have the necessary funds to invest in agritourism can start small. You can for instance start with a one-bedroom bed and breakfast facility and/or a small restaurant serving local traditional foods and/or a small shop especially selling local and self made articles. If you could add some outdoor activities – cycle trails, horse rides, excursions on a donkey cart, ox wagon, tractor and trailer or an opportunity to fish – you could be on your way to ensure a constant additional income. Remember, tourists will also be interested to experience your farming practices – how do you plant your maize, or other crops, how do you produce wool, broilers, pigs or whatever. Show them what you do on your farm and even let them experience this with some activities. Remember many urban people of today, especially children, have never seen a cow, let alone touch one or drank milk direct from a teat.

Of course, just as the rest of your business, this agritourism enterprise will also have

to be managed properly by good planning, organisation, implementing and control of all the management areas. The one management area that will need a lot of attention is marketing. But here again for starters make use of social media at a very low cost.

Assistance and training is available through a number of NGO's and the South African Tourism Services Association (SATSA). More specifically the Association for Agritourism in South Africa (AASA) is available to assist especially with marketing of agritourism opportunities. Contact these organisations for assistance and remember tourism is one of the fastest growing businesses in South Africa.

In conclusion: The core message of this article is that if you want your farming business to survive you will have to think quite differently about your business. Incorporating an agritourism activity in your business is but one example of thinking differently. 🍷

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

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(Grain SA/Sasol photo competition)

Agriculturally important fungi and their mycotoxins

This is the first in a series of brief articles dealing with the importance of mycotoxins in agriculture, and how these impact human and animal health.

To start, we know that fungi (or moulds) are micro-organisms that occur throughout nature: In the soil and in water, the air and on plants. We can identify fungi as being the powdery or woolly moulds that we often see growing on stale bread, cheese and rotten fruit. Some fungi are known to cause plant diseases and therefore become important in agriculture due to their associated economic losses.

As further explanation, mycotoxins are poisonous chemical compounds that are produced by certain fungi under natural conditions. The function of these mycotoxins and the reason for their production remains largely unclear since they appear to play little or no role in the normal growth of fungi. There are many such compounds, but only a few are regularly found in food and feedstuffs such as grains, other seeds and nuts.

When these mycotoxins are present at high enough levels in our food, they then pose a significant health risk to humans and animals. Since they are produced by fungi, mycotoxins are usually associated with diseased or mouldy crops and food products. Mycotoxins can infect food commodities during pre- and post-harvest periods, storage or during food processing.

Due to the heat and chemical stability of most mycotoxins, they can only partially be re-

Table 1: Summary of five important mycotoxins.

Mycotoxin	Main fungal producing species*	Relevant agricultural commodities	Type of fungal infection
Aflatoxin (AFLA)	<i>Aspergillus flavus</i> , <i>Aspergillus parasiticus</i>	Peanuts Maize Wheat Sorghum Nuts Rice Cassava Figs Oil seeds Milk, dairy products	Pre- and post-harvest
Ochratoxin A (OTA)	<i>Aspergillus ochraceus</i> , <i>Aspergillus carbonarius</i> , <i>Penicillium verrucosum</i>	Wheat Barley Oats Rye Maize Dry-beans Coffee beans Grapes Pork meat Nuts Cocoa Milk	Mainly post-harvest
Deoxynivalenol (DON – “vomitoxin”)	<i>Fusarium graminearum</i> , <i>Fusarium culmorum</i>	Maize Wheat Rye Barley Sorghum	Pre-harvest
Zearalenone (ZEA)	<i>Fusarium graminearum</i> , <i>Fusarium culmorum</i>	Maize Wheat Barley Rice	Pre-harvest
Fumonisin (FB)	<i>Fusarium verticillioides</i> , <i>Fusarium proliferatum</i>	Maize Sorghum	Pre-harvest

* A fungal species is a specific group of fungi which are nearly identical to each other and can naturally breed or share their genetic traits with one another.



moved through food processing and/ or decontamination procedures. Information about food-borne mycotoxins is far from complete, but enough is known to identify them as serious problems in many parts of the world.

Mycotoxin contamination of crops can occur due to adverse climate conditions and also inadequate agricultural prac-

tices. High humidity (> 85%), high temperatures (> 25°C), insect and rodent damage, improper drying of crops, and water damage in the storage structures are but a few of the issues which can increase fungal and mycotoxin development.

The ‘Big Five’ mycotoxins

The five mycotoxins considered to be the most important in local and international agriculture,



Using HEAT UNITS and RAINFALL RECORDS to determine crop yield potential

Previous Pula Imvula articles have covered using rainfall records, rainfall patterns, soil moisture conservation to evaluate the potential, sustainability and economic viability of crops in your farming environment.

Another tool that can be used to maximise the yield potential of crops on your farm is the consideration of the heat units required to produce grain crops together with your long term rainfall received and also taking the soil depth and fertility of particular lands into account.

The very high temperatures and very dry periods during the summer growing experienced last season has now been recorded as one of the hottest years on record in South Africa. A temperature of 44,7°C was experienced in Cape Town during January 2016. As a farmer the choice of the correct cultivars of sunflowers, maize, soybeans, dry beans and other crops is critical.

One of the main factors that influence the crop production potential and in turn actual production will be the heat units experienced

in any particular season. The yields realised with sunflowers planted between the 15th and 20th of January 2016, in the Eastern Free State ranged from 1 ton to 1,6 tons with the late season cultivars planted. These yields were exceptional under the circumstances with the rapid tapering off of the heat units available in the production period from January to May. The sunflower crop saved farmers from a total loss from cropping in that season.

What are growing degree days or heat units?

Scientists, horticulturists, gardeners and farmers discovered that there is a strong correlation between the measurement of the heat accumulation derived from the maximum and minimum temperatures experienced by both plants, animals and insects and their development in a growth season or growth phase. It is a factor that can be easily measured and used to predict when a flower will bloom, an insect will emerge from dormancy or the various stages a crop will reach from planting to maturity.

The crop heat units are calculated, using the daily maximum and minimum temperature less a base temperature for each day and accumulated from planting to the harvest date. The base temperature is different for each crop. The base temperature of maize is 10°C. The formula used to calculate the daily heat units is the (maximum temperature (°C) plus the minimum temperature (°C)) divided by 2 minus the base temperature (°C). These daily amounts are recorded and added up cumulatively to show the accumulated heat units throughout the growing season. If this is done consistently for the temperatures experienced on your farm the targets as set for various cultivars can be monitored.

For example, given a maximum temperature of 28 (°C) and a minimum of 15 (°C) the heat unit calculation for that day for maize would be $(28 + 15) / 2 - 10$ equals 16,5 growing degree days (GDDs) or heat units for the day. Cold nights can really slow up the development in days to the targeted 50% tasseling date. The heat unit requirements are a good guideline but all the agronomic factors coupled with prevailing environmental conditions will determine the actual crop benchmarks reached, if you can measure your rainfall and temperatures daily. The weather bureau station near you can provide the maximum and minimum temperatures in your area.

A table of temperatures for Pretoria is shown in **Table 1** as an example. These can be used for farmers in that area to calculate the heat units and identify the correct cultivars to plant.

Cultivar choice

Plant breeders monitor this relationship and can calibrate various cultivars of maize, sorghum, soybeans, sorghum, canola, dry beans and in fact all growing crops and plants as to how much heat accumulation is needed to reach certain benchmarked or calibrated growth stages. The studies result in guidelines for farmers in choosing the correct cultivars suited to the exact conditions experienced on your farm and the other temperature microclimates found within large farms.

Companies developing and selecting cultivars show much detail such as in the seed brochures for example. They give an indication for each crop and main planting region as

Table 1: A table of temperatures for Pretoria.

Description month	Average max temp (°C)	Average min temp (°C)	Average rain days	Average snow days
January	29	17	6	0
February	29	17	6	0
March	28	16	4	0
April	25	12	3	0
May	22	7	1	0
June	21	3	0	0
July	20	3	0	0
August	23	7	0	0
September	27	11	2	0
October	28	14	4	0
November	28	15	7	0
December	28	16	4	0

Using heat units and rainfall records to determine crop yield potential

to the heat units and days required for a crop to get to 50% flowering from the planting date and days to physiological maturity.

For example, the following cultivar characteristics or agronomic parameters shown below for maize in the Western region for dry land cultivars would indicate the heat units required to the 50% tassel stage for Ultra Early planted maize being between 685 and 690; Early 710 - 720; Medium Early 725; and Medium 730 - 735. The maize cultivars are developed to be able to grow to their full genetic potential within the above heat unit ranges shown. Work out what are the maximum heat units available on your farm.

The information for sunflowers might show days to 50% flowering of 75 days, days to phys-

iological maturity as 130, and days to harvesting as 150 - 155. One cannot then plant a long season variety with a high heat unit requirement that should be planted early during January.

Consult your seed supplier so that you can be able to buy the right cultivars for your situation on your farm. You can then avoid planting a high yielding cultivar that looks attractive but that requires more heat units to physiological maturity than is available in a normal season in your farming area or the planting of a late season cultivar too early.

The knowledge of heat units required and your rainfall extent and timing can be used to optimise the ideal planting dates for the cultivars chosen. The flowering period should coincide with your most likely period for adequate

rainfall to ensure the best chance for maximum grain production. Keep in mind the risk that an early frost can destroy any late planted crops.

Conclusion

Plan early so that you can have bought and stocked in your shed early, medium and late cultivars of maize and sunflowers or other crops so that you can adapt to the given rain and planting conditions for the current season having taken the heat units prevailing on you farm into consideration.

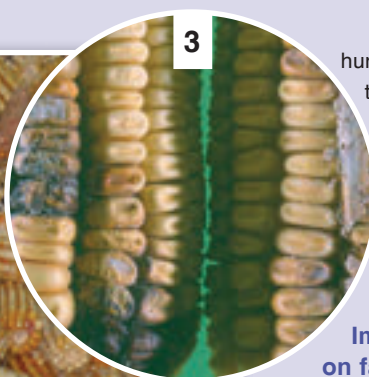
Article submitted by a retired farmer.

Agriculturally important fungi and their mycotoxins

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human and animal health are: Aflatoxin (AFLA) produced by *Aspergillus* species, ochratoxin A (OTA) produced by *Aspergillus* and *Penicillium* species, deoxynivalenol (DON), zearalenone (ZEA) and fumonisins (FB) produced by *Fusarium* species (see **Table 1**).

Impact of mycotoxins on farmers

Some impacts have already been mentioned, but can briefly be summarised as follows:

- Economic impacts – yield loss, lower crop value, loss in household income, negatively affects livestock health.

- Impact on humans – long-term and short-term diseases and health conditions, food shortages and hunger.

Conclusion

Fungi and mycotoxins are a part of nature and can never be completely eradicated. Farmers must, however, take notice of these issues and plan their agricultural crops and practices according to the latest available knowledge to ensure safe and healthy crops.

In the next issue we will explore this topic in more detail by focussing on mycotoxins relevant to the South African maize industry, answer questions such as what are safe levels of mycotoxins in maize (commercial maize versus rural subsistence maize).

Article submitted by HM Burger and P Rheeder from the Institute of Biomedical and Microbial Biotechnology (IBMB), Cape Peninsula University of Technology (CPUT). For more information, send an email to Burgerh@cput.ac.za or RheederJP@cput.ac.za.

Photo 1: Fungal damaged maize kernels.

Photo 2: Good 'healthy' maize.

Photo 3: Maize infected with *Fusarium verticillioides* (fungi).

The effect of dry conditions on animal diseases

The effect and prevalence of certain important animal diseases during dry conditions are discussed briefly. It is essential to discuss the holistic circumstances and the effect of dry conditions on animal diseases with your veterinarian.

Abnormally prolonged dry conditions can reduce the incidence of certain animal diseases, such as insect-borne viral diseases (for example ephemeral fever in cattle; blue tongue in sheep, goats and cattle; Rift Valley fever in sheep and cattle; lumpy skin disease in cattle; and horse sickness).

The incidence of tick-borne diseases like redwater (babesiosis), tick-borne gall sickness (anaplasmosis) and heartwater can also be reduced during dry conditions. The incidence of foot rot in livestock, as well as mastitis in dairy cattle, usually shows a decline during dry conditions.

In feedlots there will usually be a decline in some of the above-mentioned cattle diseases – especially foot rot. During dry conditions the rainfall is much less and consequently there are fewer ticks and insects that can carry diseases. The occurrence and distribution of disease-causing micro-organisms (for example bacteria) are also much less in drier conditions.

Prevalence of diseases in dry conditions

Ephemeral fever is seasonal. The disease primarily occurs in summer (particularly the second half of summer) and autumn (March to May). Cases have been recorded in winter too.

Outbreaks of ephemeral fever usually occur when rainfall is good and above average. If rainfall is poor, only sporadic incidences of ephemeral fever are seen. The disease usually disappears after the first frost. Research on how and where the virus hibernates has not yet yielded conclusive results.

During prolonged dry spells there is usually a decline in the incidence of blue tongue.

A phosphate deficiency in animals is characterised by poor growth, general weakness in the legs, a stiff gait and pica.

“

Blue tongue is seasonal and occurs in mid-summer and autumn, until the first frost occurs. The blue-tongue virus hibernates in cattle in particular. Indigenous sheep breeds like the Namakwa-Afrikaner, Blackhead Persian and karakul are less susceptible to blue tongue. European sheep breeds like the Merino are very susceptible.

Warm and moist weather conditions promote the hatching of the *Culicoides* midges (that carry the blue-tongue virus) in their natural habitat – particularly low-lying areas like marshes, around pans, dams and rivers.

Sheep grazing in such areas run a great risk of developing blue tongue. In certain areas in South Africa that experience heavy frost, blue tongue disappears between June and December. During prolonged dry spells there is usually a decline in the incidence of blue tongue.

Lumpy skin disease generally occurs during wet summer and autumn months, especially in animals that graze in low-lying and water-rich areas, but outbreaks can also occur during a dry season. There is generally a decline in the occurrence of lumpy skin disease during dry spells.

Rift Valley fever usually occurs in the late summer when it is hot and the humidity is high as a result of lots of rain. The mosquitoes transmitting the Rift Valley fever then hatch easily. Animals grazing in low-lying areas around pans, marshes and dams in summer run the greatest risk of developing Rift Valley fever, as mosquitoes are very active in those areas.

Heartwater occurs throughout the year. The incidence varies depending on the tick population and their activity, and is therefore less severe in the drier winter months. Transferring animals carrying infected ticks to or through areas free of heartwater can lead to



The incidence of botulism poisoning in cattle can increase during droughts. Photo: OVI



Worldwide, mastitis is the most prevalent disease in dairy cattle. During dry spells the incidence of mastitis is usually lower in dairy cattle.



The prevalence of horse sickness is lower during dry spells. Photo: OVI

The effect of dry conditions on animal diseases



Depending on the management system of the dairy producer, the condition of dairy cattle can be good during dry spells. Photo: T Botha

losses among susceptible local livestock if they become infected by ticks that dropped from the travelling animals.

However, the ticks rarely survive for more than one season in an area where the climate is not conducive to their survival. Severe drought usually reduces the incidence of this disease.

Redwater often has a clear seasonal incidence and outbreaks are more common during the wet summer and autumn months. During severe droughts this disease is usually less prevalent.

The *Culicoides* midge carries the virus that causes horse sickness. This disease mainly occurs in the late summer and autumn when it is wet and when midges are abundant. Hot, moist climate conditions favour the hatching of the insects, which are active at dusk and at night, and can be observed in large numbers in low-lying areas in marshes and around pans and dams.

During the drier winter, especially in areas where severe cold and frost occur, the midges disappear and therefore instances of horse sickness do not occur until weather conditions favouring them start again the following summer.

Anaplasmosis generally has a strong seasonal occurrence and outbreaks of this dis-



The extremely poor condition of this emaciated cow is due to old age and not the current drought.



Blue ticks on a cow. These ticks transmit the redwater and tick-borne gall sickness. During severe droughts the prevalence of these diseases generally decreases.

ease are more common during the hotter wet months of summer and autumn. The higher incidence of this disease is related to the higher prevalence and activity of ticks and bloodsucking flies during this time. Climate, especially rainfall, and control measures for ticks (like dipping) will also have an influence on the occurrence of anaplasmosis in the cattle herds in an area.

During prolonged dry conditions there is generally a decline in the quality (for example



The prevalence of foot rot is usually lower during dry spells.

“The incidence of foot rot in livestock, as well as mastitis in dairy cattle, usually shows a decline during dry conditions.”



Drought caused these cattle to become so emaciated.



There is generally a decline in the occurrence of lumpy skin disease during dry spells.

“Consult your veterinarian about the prevention of botulism and possible other diseases that can occur, especially during droughts.”

in nutritional value) and volume of grass and other roughage (and sometimes concentrated feed) that could seriously affect the animal's immunity and condition. Although many of the diseases are far less prevalent in dry conditions, the problem is that the food or fodder that the animals receive is too little and its quality is not good. This can have a detrimental effect on the animal.

Botulism

The incidence of botulism poisoning in cattle and sheep can increase during droughts.

During droughts the phosphate content of old grass pastures can decrease to such an extent in winter that cattle grazing on the grass in winter can develop pica (an urgent desire to eat bones – osteophagy) if the deficiency is

not supplemented by phosphate in a lick or in the water.

A phosphate deficiency in animals is characterised by poor growth, general weakness in the legs, a stiff gait and pica.

These animals chew and lick old bones of rotting carcass material from any dead animal. If these bones or carcasses are infected with the botulism toxin (nerve toxin/neurotoxin) of the *Clostridium botulinum* bacterium and healthy animals consume it orally, they develop botulism.

The bacteria can also produce their toxin in decomposed organic plant material (for example lucerne). Botulism toxin is one of the most toxic and most deadly organic toxins, if not the most toxic on earth.

Botulism can be prevented and controlled effectively through annual vaccination, which is the stock farmer's insurance policy against this disease. If fowl manure is fed to cattle during a drought, animals definitely have to be vaccinated against botulism, as the botulism toxin can be present in the manure.

Consult your veterinarian about the prevention of botulism and possible other diseases that can occur, especially during droughts.

The transportation of animals that are not vaccinated against heartwater to heartwater areas because of a shortage of grazing can lead to multiple deaths. The same principle applies to redwater and tick-borne gall sickness.

Other important matters during dry spells

- During particularly prolonged dry periods cows reproduce poorly, and this has a negative economic effect. Fewer cows become pregnant in dry periods. The calf percentage drops and the period between calves increase.

- The milk production of cows decreases. The result is that calves receive less milk, do not grow well, and their condition is usually not good.
- Depending on the length of the drought, the seasons after the drought are often unsatisfactory, with poorer economic predictions. If the summer rainfall area experiences a dry spell, the following winter will be tough.
- During dry spells plant poisoning (for example poison leaf) can cause multiple deaths if the management on the farm is not good. Consult your veterinarian regarding poisoning during dry spells.
- Dry gall sickness (not anaplasmosis) could be a problem in dry periods. Consult your veterinarian. In dairy farming the incidence of mastitis can drop in dry periods if the management of the herds is good.
- In dairies and feedlots the incidence of foot rot can drop with good management.
- If thin, emaciated cattle lie down during long droughts and cannot get up again, the prognosis for the survival of such an animal is very poor. Consult your veterinarian about nutrition and good care of such an animal.
- Make sure that the animals have free access to clean drinking water in dry, hot conditions (high temperatures).
- Livestock farmers must make sure that their animals' annual vaccinations and immunisations are up to date in spite of the drought.

Article submitted by Jan du Preez, Managing Director, Institute of Livestock Technology for SA Graan/Grain March 2016. For more information, send an email to drjanh.dupreez@gmail.com.



During dry spells plant poisoning (for example poison leaf) can cause many deaths if the management on the farm is not good. Photo: OVI



Ephemeral fever is usually present when good, above-average rainfall occurs.



The SAB silos in Caledon.

SAB and AB InBev merger

As most farmers would have heard, during October 2016, the two largest brewers namely SAB Miller and Anheuser-Busch InBev (AB InBev) officially merged.

Through the SAB Miller and AB InBev merger, the company is experiencing an exciting transition period and has the full support of the South African Government to jointly invest in the development of the agricultural sector.

Growth and development needs to take place specifically in terms of dry land and irrigated hectares as well as throughout the supply chain. AB InBev aims to achieve this with a R610 million investment which aims to:

- Establish a total of 800 New Era farmers and 20 commercial farmers.

- South Africa to be a nett exporter of malted barley and maize by 2021;
- Increase barley production from 300 000 tons to 475 000 tons.
- From buying in maize to exporting 100 000 tons/year (mainly focussing on New Era farmers).
- Create 2 800 new job opportunities in the agri supply chain.

Details of that which has been committed towards the grain industry in terms of investment in infrastructure, the investment locations and so forth resides with an implementation board consisting of the Department of Agriculture, Forestry and Fisheries; the Department of Trade and Industry; the Department of Economy and Enterprise Development and AB InBev and will be communicated in due time. Until

such time it is business as usual for barley and maize producers in South Africa.

What producers should take note regarding the contracting process are the calls of intent (what you plan to plant). The due dates for responding are as follow:

- First call: Mid December 2016.
- Second call: End January 2017.
- Final call for contracts: July 2017.

Article submitted by Liana Stroebe, Provincial Co-ordinator, (Western Cape) of the Grain SA Farmer Development Programme. For more information, send an email to liana@grainsa.co.za.

Pula Invula's Quote of the Month

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

~ Colin Powell

South African wheat market overview for the 2016/2017 season

The previous season was quite a difficult one in the wheat market. The 2015/2016 marketing season was known as extremely dry through the largest parts of the country and also in the wheat producing areas.

The production for the 2016/2017 season in terms of wheat is looking very favourable and good yields were reported. Although 2016 was not met by very good rainfall in some parts of the grain production areas, the rain that did come certainly showed up at the right time.

Nearing towards the end of 2016 during harvest season, the Western Cape (WC) farmers yielded what is considered to be the best harvest in many years and owing to that was a combination of the correct weather timing and good farmer practices. The expected production in the WC increased by 10% to 1,066 million tons from 969 000 tons of the previous season.

In December 2016, the national Crop Estimates Committee released the latest Crop Estimates report which indicates an upswing for the season ahead. The forecast for a bigger crop can be attributed to an increase in the area planted and the weather conditions which improved in the Western Cape area. The estimated crop production for 2016/2017

production season has been revised to 1,876 million tons which is 6% higher than the previously estimated forecast of 1,766 million tons. The Supply and Demand estimates provides an indication of what the future holds for the 2016/2017 season in the South African wheat market.

Wheat Supply and Demand

In the previous season, marked as the 2015/2016 marketing season, South African imports were at a record high coming in at 2,067 million tons. The surge in imports was due to uncertainty of the wheat tariff and which direction it may take and as a result, the market remained with large ending stocks which amounted to 832 000 tons which subsequently lead to large wheat stocks of 144 000 tons above pipeline.

It was no surprise then, that this current marketing season's supply side would be met by high opening stocks, which are 39% higher than the previous season. The local demand has been slightly reduced by 0,15% which was mainly swayed by the reduction in the imports.

Current import expectations are 1,4 million tons with ending stocks at 682 000 tons. Following a good harvest late last year coupled with high ending stocks, we have seen shrinkage in wheat imports. So far, the country has

“*The current wheat market prospects paint a good picture in comparison to the previous season, with increased export demand and overall good harvest, 2017 is off to a good start!*

imported 81 376 tons of wheat which is less 86% year-to-date and constitutes only 5% of the total import requirements of 1,4 million tons.

The current wheat market prospects paint a good picture in comparison to the previous season, with increased export demand and overall good harvest, 2017 is off to a good start! 🌱

Article submitted by Michelle Mokone, Agricultural Economist: Grain SA. For more information, send an email to Michelle@grainsa.co.za.



What are my responsibilities in terms of fire prevention on my farm?

The National Veld and Forest Fire Act 101 of 1998 prescribe the following statutory landowner requirements:

Responsibilities of people in control of land

All owners on whose land a fire may start or burn or from whose land it may spread must:

- Prepare **firebreaks** on their side of the boundary. Owners of adjoining land may agree to position a common firebreak away from the boundary. Discuss fire breaks with neighbours and plan together – it should be in the right place, cost effective and be practical to implement. Document your agreed fire breaks.

Fire prevention through firebreaks

- It should be wide enough and long enough to have a reasonable chance of preventing a fire from spreading to or from neighbouring land;
- It does not cause soil erosion;
- It is reasonably free of flammable material capable of carrying a fire across it; and
- It is maintained.

Some natural (or human made) veld conditions, e.g. recently burned veld (younger than four years), a natural vlei, a dam or river, old farmlands and floodplains can be regarded as a natural firebreak.

The width of firebreaks depends on where it is to be made:

- Firebreaks in crop residue /fallow land – at least 2,5 m wide.
- Fynbos/Natural veld on agricultural land – 2,5 m x the height of vegetation (minimum of 5 m).

“Have the necessary equipment, protective clothing and trained personnel for extinguishing fires as are prescribed in the regulations.”



Wildfires move through landscapes very quickly; destroying property, livelihoods, biodiversity and sometimes even lives.



- Road verge (provincial and district roads) – 3 m on either side to be maintained annually.
- Labour housing, farm infrastructure and homesteads – 10 m.
- Wildland interface – 20 m, depending on the adjacent land type such as Protected Areas, Formal Forestry Plantations etc.

Please check with your local municipality or fire brigade to confirm the rules and regulations for your area.

Have the necessary **equipment, protective clothing and trained personnel** for extinguishing fires as are prescribed in the regulations. If a fire should break out, take all reasonable steps to **alert** the neighbours and notify the relevant fire brigade, fire protection officer of the local Fire Protection Association (FPA), if there is one. Do everything in your power to safely stop the fire from spreading. If the owner of the land is absent, he or she must appoint a responsible person on the land or nearby his or her land to take the needed precautions if a fire might occur, or assist to do so.

However, you cannot always effectively prevent, manage and fight fires on your own. You may want to consider becoming a member of your local Fire Protection Association (FPA). FPAs help land users to predict, prevent, manage and extinguish wildfires. Wildfires move through landscapes very quickly; destroying property, livelihoods, biodiversity and sometimes even lives.

Your local FPA can help land owners meet their legal requirements, provide training to land owners and their staff and guide them through fire management planning and also assist with firebreak preparation. You will be assisted to become legally compliant, as per national regulations. Members are offered training in fire fighting, fire management and fire prevention. Membership is voluntary and there is a nominal joining fee.

There are FPAs across South Africa. If no FPA exists in your area, approach your district

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Wildfires move through landscapes very quickly; destroying property, livelihoods, biodiversity and sometimes even lives.

municipality or farmers' union to assist. For more information on The National Veld and Forest Fire Act 101 of 1998 please visit <http://www.daff.gov.za>.

At home

- Make sure your home and buildings have been made safe against fire.
- Undertake an annual fire hazard assessment. Identify the risks/threats and what you can do to minimise them.

To-do list

- Reduce fuel loads and avoid uncontrolled alien vegetation infestation on your land.
- During the cooler months, controlled or prescribed burning is sometimes used and may decrease the likelihood of serious hotter fires. Controlled burning must be overseen by fire control authorities for regulations and permits. Please contact your local municipality or fire brigade.
- Share your plan with your neighbours and fire protection officer, if you have one.
- Make sure your firebreaks are in place and that they are wide and long enough to stop a fire.
- Discuss fire insurance for yourself with your insurance broker.
- Make sure contact numbers of Fire and Rescue services are easily accessible.
- Stay in touch; keep communication lines open. *WhatsApp*, sms or radios can be used.
- Formalise who is responsible for what, when a fire breaks out there is no time to allocate responsibilities; everyone must know exactly what they must do. Meet regularly to update your procedures. 📌

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Prepare firebreaks on their side of the boundary. Owners of adjoining land may agree to position a common firebreak away from the boundary.

Article submitted by Ingrid Marti, Freelance Journalist. For more information, send an email to ingridmarti7@gmail.com.

TEAMWORK: Dividing the task, multiplying the success

To accentuate the importance of teamwork, American basketball star, Michael Jordan said, 'Talent wins games, but teamwork wins championships'. With the teamwork between Grain SA and the Jobs Fund Project the agricultural championship is sure to be won.

Grain SA has long been committed to farmer development and assisting previously disadvantaged farmers in the commercialisation process. The knowledge transferred by the study group programmes has impacted positively and made a direct contribution to the household security of subsistence farmers. The mentorship of farmers during the critical summer months has made a big difference to farmers' end results.

Helping farmers to help themselves

Since Grain SA believes that the success of any development programme is directly linked to the involvement and a sense of ownership by the beneficiaries, farmers were asked to make an own contribution which escalates each year. According to Jane McPherson, programme manager: Farmer Development, experience has shown that farmers must be assisted for a limited period of time and their own contribution should increase each year until they can fund the planting themselves. 'If this is not the case, then farmers participate while they receive grants and when the grants stop, the whole effort stops. We do not want this to happen', she adds.

The farmers saw overwhelming results in their maize crops. Their successes attracted much interest and increasingly more farmers began asking to be part of the project. Great excitement reigned when the Jobs Fund turned the spotlight to the agricultural sector. Since their explicit mandate is job creation, income generation and poverty alleviation, a proposal was submitted to expand on the project which Grain SA had already set in motion.

Included in the proposal were a few important elements such as:

- An individual farmer is part of the project for four years and thereafter he/she should continue on his/her own.
- The number of farmers increases by 850 per year up to a maximum of 3 400 farmers (which means that in the last year 10 200 ha will be in production).
- Each farmer will start with 1 ha and may



Mzwayi and Celiwe Zuma stand proudly in front of the excellent stand of their maize crop.



Brothers Mngadi say they feel like they are 'lying in white gold' – delighted with their yields this season!

increase the area to a maximum of 10 ha each.

- The mentoring to farmers will be reduced by 25% per year so that the farmers gradually learn to do all activities themselves, understanding the impact of their actions.

All the Jobs Fund projects work on the basis of 1:1 funding. They will only match the funding that is put up by other partners. In this instance the cash deposited by the farmers together with the funding from Grain SA's other partners, including the discounts offered by the input suppliers, counted as Grain SA's contribution which was then matched by the Jobs Fund. The Jobs Fund

contributes the full cost of the mentoring and assists with the shortfall in the cost of production inputs.

Because of the amazing harvests the farmers who form part of this project have achieved, 3 023 new farmers working 4 317 ha signed up for the 2016/2017 season. Grain SA is really excited to see that farmers are suddenly seeing hope for their farming enterprises. While farmers are expected to make a financial contribution, they are supported with knowledge and financial assistance, the true investment made by a project such as this is in the individual.



More than 3 000 farmers working more than 4 000 ha of land currently form part of this project. They are distributed in the following areas:

- **Maclear** – 302 farmers on 216 ha
- **Nelspruit** – 394 farmers on 408 ha
- **Kokstad** – 549 farmers on 545 ha
- **Umtata** – 785 farmers on 711 ha
- **Dundee** – 910 farmers on 950 ha
- **Louwsberg** – 732 farmers on 1 457 ha

Initially the farmers contribute 25% of the production costs with industry contributing 30% (in the form of discount) with the balance for the inputs being carried by the Jobs Fund. As the percentage of their own contribution will increase each year, the end-goal is that by the fifth year the farmer will be able to plant without any further financial support and will consequently be an independent farmer.

In this way, Grain SA hopes to have sustainable production on all the hectares after the end of the project. The farmers will know what to do and they will have grown accustomed to bearing the costs of the inputs. The potential to change the demographics of agriculture in South Africa through this network of partnerships is huge and exciting.

Success stories

Mr Mzwayi and Mrs Celiwe Zuma from the Hlatikulu region have access to 6 ha of arable land which they rely on to support their fam-

ily. They entered into the Jobs Fund project in 2015. Previously they had relied on traditional practices, but through the training they received in the Grain SA Jobs Fund project, have adopted modern methods by implementing no-till practices. Previously they were satisfied with a 1,5 t/ha to 2 t/ha crop. In the 2015/2016 season they achieved a 4,1 t/ha crop! Besides the direct benefit of food security for the Zuma's as a family, they have also provided part time work for 15 people through the season. This has truly been food security and job creation in action.

Mr Inhlanhla Mngadi and his brother, Thula became involved with Grain SA and the Jobs Fund project in 2015. They have access to land on the banks of the Bushman's river in the Kwa-Dlamini area, 30 km from Estcourt. The brothers planted 2 ha white maize through the project and harvested an outstanding 11 t/ha. According to Gavin Mathews (mentor) the Mngadi's have invested their profits straight back into the Grain SA Jobs Fund project for the new season and intend planting 8 ha next season.

CEO visits farmers

During December 2016, Mr Jannie de Villiers (CEO of Grain SA) decided to see first-hand what difference this project is making. 'We receive so many hand-written thank you letters of how our involvement has changed lives, that I decided to make time in my schedule to pay these hard-working farmers a visit', De Villiers shares.

THANK YOU to the following Jobs Fund partners:

- **Monsanto**
- **Kynoch**
- **SA Lime and Gypsum**
- **Syngenta**
- **Sasol Trust**
- **Department of Rural Development and Land Reform**

To him the highlights were seeing that people were being uplifted and living conditions were being improved. According to De Villiers this project has helped to change their scepticism about projects such as this one. 'So often promises made to these farmers have come up empty, but now they can witness the delivery of promised inputs leading to increased production and of course profit.'

Grain SA's goal remains commercial production – they are not trying to turn farmers into commercial farmers, but to improve their living condition by equipping them to improve their skills.

Article submitted by Louise Kunz, Pula Imvula contributor. For more information, send an email to louise@infoworks.biz.



Grain SA's CEO, Mr Jannie de Villiers paid a visit to some of the farmers who already form part of this project.

COMMUNITY SEED BANKS

Farmers' platform for crop conservation and improvement

Agricultural biodiversity, also called agrobiodiversity, used directly or indirectly for food and agriculture comprises the diversity of plant genetic resources and species used for food, fuel, fodder, fibre and pharmaceuticals.

“From an ecological perspective, agrobiodiversity supports and protects human lives

Components of agrobiodiversity include agricultural ecosystems, crop varieties, genes in plants, and animal species. From an ecological perspective, agrobiodiversity supports and protects human lives as it provides continued inputs for evolution and increases the productive capacity of ecosystems. The resilience and capacity of the ecosystems to deal with change is weakened when agrobiodiversity becomes less diverse.

The principal stewards of agrobiodiversity are people who use and depend upon it, living in communities where this diversity continues to exist. They have the skills and knowledge that have contributed to the devel-

opment of distinct types and varieties of plants and animals vital to food and health security. The community systems that have maintained agrobiodiversity are increasingly coming under pressure from factors such as drought, crop failure, difficult storage conditions and contamination from external seed sources. As a result, the quantity of seed and number of plant varieties locally accessible (i.e. available and affordable) to farmers for planting becomes negatively affected.



Gumbu village seed selection.
Photo: Ronnie Vernoooy



The Gumbu home based care seed bank committee.



The Sterkspruit community seed bank committee.



Storing community seed bank accession at Sterkspruit.

“

The principal stewards of agrobiodiversity are people who use and depend upon it, living in communities where this diversity continues to exist.

With agricultural modernisation, farmers are increasingly purchasing more of their seed requirements rendering local seed conservation less important. As commercial varieties replace older local varieties, the older varieties become increasingly unavailable in many communities. There is an urgent need for communities to safely conserve their seed, not just to ensure access to the next season's planting material, but also to safeguard planting material that may possess valuable genes for future crop improvement programmes, for example to adapt to climate change.

Background

Globally, saving and improving seed as a locally organised community effort has been around for about 30 years. In 1996, the Department of Agriculture, Forestry and Fisheries (DAFF) established the National Plant Genetic Resources Centre to develop and implement policies, legislation, strategies and norms and standards on the management of plant genetic resources for food and agriculture, to regulate and promote the propagating material of genetic resources for food and agriculture and to provide for risk mitigating systems in support of agrobiodiversity.

South Africa, just like other countries, has a long history of traditional smallholder agriculture in which farmers save a portion from their harvest for the following planting season. They have done so for decades, mostly on an individual basis and not collectively within communities.

Although many farmers still save their own seeds in this way, agrobiodiversity conservation and sustainable use can be more effective if properly managed at community level and spread over the entire agricultural landscape. The first recorded community seed banks in South Africa (which are currently not functional) were constructed for the purpose of seed storage in the Sekhukhune District, Limpopo, with the Phadima Agricultural Association as well as in KwaNgwanase, KwaZulu-Natal, with the KwaNgwanase Farmers' Organisation, in collaboration with the NGO Biowatch South Africa.

Taking into account the need for expansion to promote on-farm management and conser-



Sterkspruit's first collection.
Photo: Ronnie Vernoooy

vation of field and landrace crops as a key component of the country's in situ conservation strategy, the DAFF embarked on the establishment of a new strategy to set up community seed banks in Limpopo and Eastern Cape. Bioversity International joined forces with DAFF to implement this new strategy.

Case studies in South Africa

The Directorate Genetic Resources of DAFF, Bioversity International and the Departments of Agriculture in Limpopo and Eastern Cape worked together to set up pilot community seed banks in Mutale Local Municipality (Limpopo) and Joe Gqabi District Municipality (Eastern Cape) respectively to guide the national roll-out.

The efforts were based on research about the extent to which farmers are still engaged in growing landraces, the main factors influencing their choices of crops and crop varieties, the rate and scope of loss of diversity, the impact of climate change on agriculture and seed systems, the strengths and weaknesses of traditional seed saving and exchange practises, and the prospects of setting up a locally managed and governed community seed bank.

Research was complemented by the organisation of food fairs where farmers prepared dishes using traditional crops, as a way to assess the crop diversity levels in both community sites and to celebrate traditional crop diversity and culinary practices of farmer com-



The community seed bank register at Gumbu Village.

munities. Traditional food recipes were collected during the food fairs and published in a trilingual booklet in 2015.

This action research process has laid the groundwork for linking formal research organisations/institutions, the government as policymaking agency and farmers as end users to review current crop improvement research practices.

The active participation of the formal seed sector research community is essential to contribute to designing and testing novel crop improvement practises and measures that add value to farmers' own efforts to conserve and sustainably use agrobiodiversity. Through such collaboration community seed banks the genetic base of key crops can be broadened to

Community seed banks: Farmers' platform for crop conservation and improvement



Sterkspruit inauguration of the seed bank.
Photo: Ronnie Vernooy



Mutale first seed fair. Photo: Ronnie Vernooy

withstand environmental disasters that affect local production and conservation efforts.

Conclusion

Functional community seed banks could serve as co-ordinating or nodal agencies bringing together farmers, plant breeders, gene bank

curators and other stakeholders (e.g. extension services) to realise true benefits of utilising agrobiodiversity effectively and efficiently.

Through community seed banks farmers can be more closely involved and empowered in the research processes and have a measure of control over their natural recourses includ-

“Through community seed banks farmers can be more closely involved and empowered in the research processes and have a measure of control over their natural recourses including over the documentation of their skills and knowledge.

ing over the documentation of their skills and knowledge.

Community seed banks can be effective platforms to make sure that landraces are preserved for future usage, especially for seed improvement processes, such as participatory plant breeding. Scientists should encourage participation of farmers in community seed banks, particularly where ‘improved’ crop varieties have not benefited farmers, to increase the conservation, improvement and sustainable use of plant genetic resources, essential for achieving food security and addressing nutritional requirements of present and future generations locally and nationally.

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Article submitted by Thabo Tjikana, Nkat Maluleke, Mpolokeng Mokoena, all from the Directorate: Genetic Resources, Department of Agriculture, Forestry and Fisheries and Ronnie Vernooy and Bhuvon Sthapit, both from Bioversity International, for SA Graan/Grain SA March 2016. For more information, send an email to Thabo Tjikana at ThaboTj@daff.gov.za or pgrc@daff.gov.za.

The REPRODUCTIVE STAGE of the maize plant

When we look at a maize field we are actually seeing thousands of efficient plant “factories” that produce energy through photosynthesis. The raw materials for the factories (plants) are water and mineral nutrients from the soil and carbon dioxide and oxygen from the atmosphere.

The plants use sunlight as an energy source to produce carbohydrates, protein and oil that are stored as grain. The maize plant is largely dependent on nature for its growth, development and yield. However, the farmer can manipulate the environment through management of aspects such as hybrid choice, tillage, crop rotation, fertilisation, irrigation and pest control. A farmer who understands the growth and development of maize will apply the right production practice at the right time to achieve higher yields and profits.

The growth stages of a plant can be divided into different development stages. With the first stage called the vegetative stage, where the plant develops the “factory” that is going to produce the raw material to be stored as grain.

In the vegetative stage the plant used all the energy to produce the leaves and stalks – the “factory”. When the maize plant is fully developed it will go over into the reproductive stage and the leaves will produce sugar to be converted and stored as carbohydrates, protein and oil in the grain.

A typical characteristic of the first stages of reproductive growth is when the silk appears at the tip of the ear. The silk usually grows for three to four days while pollen shedding takes place mainly in the mornings for a period of about seven days. Drought stress in this stage will reduce the time of pollen shedding and delay silk development, while cool, moist conditions are responsible for an increase in silk and pollen production. Tillers will shed pollen seven to ten days later than the main plant, which could be advantageous in some dry seasons.

Dryland production and pollination period

The growth stage of the maize plant at the time of pollen shedding and silk development in dryland production is of utmost importance. In the western production areas of the country it is the determining factor for the best planting time for the biggest portion of the crop.

During pollination the pollen lands on the sticky silks, germinates and grows down to the egg nucleus on the cob where fertilisation takes place. The whole process takes about 24 hours which makes it one of the quickest growth processes in nature.

Management hints

The most important management tools are the choice of planting date and plant populations under dryland production, especially in the western production areas of South Africa. These choices are linked to the long-term climatic conditions of the area. This is the most critical time in the development of the maize plant, as the moisture requirement of the plant is at its highest level and damage due to drought stress the most severe. From the above it is imperative that long-term rainfall records are studied carefully to determine the peak rainfall periods as well as the obvious mid-summer drought periods (if applicable) that need to be avoided to ensure a good crop. From the above information it has been proved that the peak planting date for the Western production regions are after 20 November for the best results.



Photo 1 - 2: The reproductive stage starts as soon as the silk appears. Pollination takes place over a 5 to 10 day period. It is critical to maintain optimal conditions if possible. The ovules are fertilised during pollination and it is important to ensure that the number of potential kernels (ovules) actually develop into kernels. Maize is sensitive to stress during this period. Stress can cause abortion of the kernels at the tip of the cob.



Hybrid choice is another tool that can assist in reducing risk. The yield of prolific-eared hybrids (two or more ears per plant) is more stable under stress conditions, although non-prolific hybrids (strongly single-eared) that are available often will out yield prolific hybrids under non-stress conditions. Hybrids that have proved themselves over the years under dryland conditions as well as at low plant populations during good and bad seasons must receive first choice. Prolific hybrids play a vital role in hybrid choice in the Western production regions.

In the Eastern Highveld the primary factor determining plant date is the number of heat units required by the crop which means that the bulk of the planting should take place in October for best results.

With an irrigated crop it is especially important to take note of the critical time, two weeks before and two weeks after silk development when enough moisture should be available to the plant.

Article submitted by Peet van der Walt, Advertising Manager, PANNAR SEED (PTY) LTD, South Africa. For more information, send an email to peet.vanderwalt@pannar.co.za.

Grain SA interviews...

Thoko Mavimbela



and some vegetables. My father owned ± 260 goats and I was their shepherd. He also owned more than 140 cows and 300 sheep and I was also the sheep shearer. I was thus motivated to farm with broilers and maize.

Describe your strengths and weaknesses

Strengths: I buy one day old chicks and rear them using the maize which I harvest from my arable lands. I take this maize and mix it with other grains to feed those broilers. With my catering business I usually order between 200 and 300 one day old chicks, feed them for eight weeks and then sell them at R75 per chicken. I also cook the chicken meat and sell it at my catering business – I make between R200 and R240 per chicken. I also exchange the maize that I have planted for mealie meal to make porridge, which I also sell. I make \pm R9 000 profit after paying all the expenses every month. Currently I own 28 cows, 40 goats and 70 chickens.

Weaknesses: Our soils were very acidic before which resulted in a very low yield.

What was your crop yield when you started farming? What are your respective yields now?

Before we joined Grain SA we used to yield between 20 and 30 bags/ha. After joining Grain SA in 2007 we gradually improved and now we yield more than 100 bags/ha. With beans we were yielding between 10 and 15 bags/ha and now we are yielding between 1,5 t/ha and 2 t/ha.

What do you think was the main contributor to your progress and success?

I think what contributed to my success is the training that I received from Grain SA on farming with maize and other grains in a more professional and productive manner. I also at-

tended other courses organised by DARDLEA as well as other organisations.

What training have you received to date and what training would you still like to do?

I have completed the Introduction to Maize Production offered by Grain SA; the Farm Business Management Level 1 offered by DARDLEA; the Occupation Health and Safe Environment offered by Grain SA; the Seedling Production offered by DARDLEA; and the Cultivation Training Course offered by DARDLEA.

I would like to be trained in Farm Management, Human Resource Management as well as Maintenance of Farm Machinery.

Where do you see yourself in five years time? What would you like to achieve?

In five years' time I would like to own a farm where I can farm with both livestock and grain. I also want to expand my business by acquiring more land so that I can plant grain on a big scale. To build my own abattoir is also part of my five-year plan – this way I can help other smallholder farmers so that they can also develop and I will thus be creating job opportunities for the unemployed.

What advice do you have for young aspiring farmers?

My advice to the young aspiring farmers is that the soil is a company which won't be closed. The soil will always be there to be used to produce crops as long as you use your brain and your hands to work on it. It is good to have your own business and work for yourself unlike working for somebody else who will one day kick you out. Before you start any farming business make sure there is a market for your product. 🌱

Article submitted by Jerry Mthombathi, Development Co-ordinator of the Grain SA Farmer Development Programme, Mpumalanga. For more information, send an email to jerry@grainsa.co.za.

THE CORNER POST

GAVIN MATHEWS

Mentorship is a two-way street



In the August 2015 issue of Pula Imvula, Jannie de Villiers (CEO of Grain SA) writes the following: 'Mentorship differs a lot from coaching. A coach has his own game plan and tells you what to do to achieve his goals. A mentor however, is a person that gives you advice on how to achieve your own goals and dreams.' In this new series, The Corner Post will feature the mentors who are part of the Grain SA mentorship programme.

Mentoring makes a difference

In 2016, with more than 160 farmers under his mentorship, Gavin Mathews managed to inspire a winner. Mzwayi Zuma's dream came true when he became the 2016 winner of the Grain SA/Absa Subsistence Farmer of the Year, thanks to hard work and the input from his mentor and study groups. This award has become one of Gavin's highlights since he joined this programme two years ago, to assist emerging farmers in the Est-court district in KwaZulu-Natal, where he has been farming for the past five years.

Gavin, who has a degree in Environmental Management, has always been interested in development. He is also one of the contributors for Pula Imvula. When the opportunity arose two years ago, to become part of the mentoring programme, he didn't hesitate to join. Currently he mentors 77 farmers mainly in the Giant's Castle and Hlatikhulu areas.

These farmers have been divided into two study groups, *Mtchezi* and *Mhlungwini*. They meet twice a week and after sharing relevant information there is an opportunity for one on one mentoring. The whole study groups visit the different plots to discuss everyone's crops and address any issues. 'It is not possible to visit everyone every week, but I try to see as many farmers as often as I can,' he says. The practical teaching in the field is Gavin's preferred method of conveying information as

farmers can see the difference correct farming practices make.

You get out what you put in

Gavin believes that enthusiasm is part of the recipe for success – the enthusiasm of the mentor about the mentees and their enthusiasm about their own farming operation. He says that once the farmers see that a mentor is truly interested in their operation and improvement, they will open themselves up to you and apply your advice. 'Continuity is also important for the success of this programme,' he says and adds that mentors must stay involved and teach the farmers as the seasons and circumstances change. To enable him to stay involved and still have time for his own business, he decided to reduce his group this year.

To him the most important problem to address in the rural areas is weed control as it is of the utmost importance to ensure a good crop. 'Currently we are making very good inroads with weed control and farmers are being taught that weeds are the number one enemy. If they stick to the guidelines their yield can improve through management and spray programmes,' he adds.

Although the mentorship programme has been created to change the lives of subsistence and small-scale farmers, it has definitely made an impact in his own life. 'Personally, this programme has opened my eyes to see the great need there is amongst our smallholder farmers,' he shares. According to Gavin 60% to 70% of food produced in Africa is produced by small-scale farmers. 'Africa operates in a small-scale farmer system. If we do not get involved in training and mentoring these farmers, we are missing the boat,' he adds. He urges commercial farmers to get involved in mentoring subsistence farmers to make a difference in food security and improve livelihoods.

Gavin also feels that too little emphasis is placed on the small-scale farmers in the agricul-

tural industry. 'If all the communal land and land that is available to subsistence and smallholder farmers can be utilised, production in our country can be increased tremendously. As it is impossible for all farmers to become commercial farmers, they must be shown what they can achieve – that what they produce can be at commercial level and can contribute to food security.'

Get involved

With several communal projects launched in rural areas it is challenging to get people involved. 'People must realise that all the organisations have one goal in mind: To improve subsistence farming as a whole and increase production.' He encourages all small-scale farmers to get involved in a project to improve production in these areas.

About his own involvement in the programme he says: 'This job is fulfilling. It inspires me to see the farmers' excitement about what they are doing and the rewards they are reaping. This project has an impact on their lives and this keeps me interested and involved.' Gavin invites anyone who is interested in what they as mentors are doing, to follow him on *Twitter* as he posts a lot about his work. His *Twitter* handle is @gavmat1.

A quote from American author, Ivern Ball reads: 'Knowledge is power, but enthusiasm pulls the switch.' Through the mentorship programme the necessary knowledge to improve farming practices is provided, but it is the enthusiasm of a mentor like Gavin Mathews which pulls the switch.

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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