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Welcome to our very first issue of Zimbabwe Farming Today! We, the team at Zimbabwe Farming Today, are proud to be bringing you news and information on this and other exciting developments from our farming sector. Despite the Covid-19 pandemic changing the face of business worldwide, farming operations continue, pandemic or not. Agriculture remains a key economic driver in a region blessed with rich soil and a favourable climate. As such, there will always be something exciting to chronicle, whether it be market information or tips on basic animal nutrition from industry experts, an innovative development or a perspective on the status of our crops.

We have entered a brave new world, here in Zimbabwe, with our first ever live online cattle sale, recently held by CC Sales. The first of its kind in the country, it enabled farmers to sell their livestock, albeit in an alternative format. It’s this kind of ability to adapt that is so important if we are to succeed despite the challenges we face. It is also this kind of innovation that ensures the business of farming here will grow, despite the unforeseen challenges we face from time to time.
Thoughts From A Farmer On ...

Growing Macadamia Nuts

Considering growing macadamias? Here are some insider tips from someone who knows his stuff, with ten years’ worth of hands-on experience. Justice Mtawirira is the owner of Mtawarira Fruit, Nut and Timber. As well as growing Macadamias and Avocados, his business also specialises in producing macadamia and Hass and Fuerte avocado seedlings, but also sells litchi, orange, pecan and mango seedlings to order and also supplies your timber requirements. The business premises are in Chipinge and Gweru.

narrative that these trees like the cold and only work well in Chipinge. If you are in natural regions 1, 2 and 3, you can successfully farm these trees. In region 4, you have to be a very diligent farmer with access to water resources and plant volumes as yield output won’t be as good as from the aforementioned regions.

Greetings everyone! My name is Justice and its an honour to share with you the intricacies of farming macadamia nuts! I will take you through each stage of how to set up your orchards and hopefully at the end of this, some of you will be inspired to take up orchard farming. It is a longterm investment that requires the utmost patience but the returns give one the ability to transfer wealth from one generation to the next due to the ability to harvest trees for decades. yes, decades! There is a false

The second myth is that it is a “retirement plan”. My response to that would be no. It is a way to accumulate wealth. Orchard farming requires guts, resilience, patience, and single mindedness of purpose. I always compare doing it to completing a degree. Years of hard work and sweat will only make you better after enduring the process with graduation day being the first time you take fruit to the market. For me, graduation was in 2015, after planting my first macadamia trees in
2012. Granted, the yields were small but I saw it as an entry level job. Minimal pay but a tangible result nonetheless. The yields increase year on year and the rest is a story you will happily tell.

Let’s get into the real gist of our purpose here, with a guide to growing macadamia nuts. Macadamia trees in Zimbabwe are farmed mainly for nut export purposes. Seedlings when sold from us, are already two years old. It takes 18-24 months to produce quality grafted seedlings. Once planted out, it takes three years for the grafted seedlings to start producing fruit and the yield gets better every year until the tree is 7-8 years old (full maturity). You can harvest the tree for 50+ years depending on your farm management practices. To plant a hectare of macadamia trees you require between 272-312 trees. This assists you, the farmer, in maximising yields when the trees are still younger. When the trees reach full maturity, you will have to cut down some of the trees - about 120-150 trees per hectare, depending on the planted variety in order to ensure good yields. Overcrowded trees lead to poor yields. A typical use of less being more. It is not a loss as you can transplant the trees you have cut down/uprooted onto another area and they produce just as well.

**Land Prep**

If the physical properties of the soil ie pH (5.5-6.5), drainage, are suitable for growing macadamias, the soil must be prepped carefully and well in advance. Have soil tests done. Macadamias can survive in sandy well drained soils but it is imperative to also find out which Region you are in. The soil must be ripped as deeply as possible. It then won’t be necessary to dig deep holes for planting as you can plant on ridges created with a ridger. If machinery isn’t available, you can just dig holes to plant your trees (one metre cubed) which is what I did. Planting on ridges is a recent development. During digging, make sure to separate the top and bottom soil half and half. On planting, top soil goes to the bottom and bottom soil goes on top. Many will scoff at the labour involved with digging such holes but I will illustrate with a photo that shows the difference in planting in shallow and deep holes.

*Those two trees are the same age. The bigger tree was planted with the one metre cubed method and the smaller tree was planted in a shallow hole.*
Planting Differences
Different macadamia cultivars have different growth patterns: they’re usually either spreading or upright growers. The size of each cultivar’s drip area (surface area below leaf canopy) depends on altitude, soil type, rootstock, rainfall, temperature and relative humidity. The planting distance for each cultivar will therefore differ from place to place. Various guidelines can be followed with respect to spreading and upright growers. As soon as the competition for light becomes too great, production will decrease drastically. To allow for tractors to move between the trees, the hedgerow planting system is used. With this system: upright growers are planted 3.5 metres apart within the row with 7m between rows. Spreading cultivars are planted 10m apart within the row with 6m between the rows.

Irrigation
Water stress often limits tree growth, nut set, growth and quality of the macadamia nut. In Zimbabwe, the months between August and November are the most critical irrigation months as we have little to no rain in the country, depending on what region you’re in. The tree requires up to 20 litres per tree per month for optimum production.

Orchard Establishment And Care
Controlling grass growth is a major issue for macadamia growers when establishing an orchard. If you don’t control the grass and allow it to grow around young trees, the growth of the trees will suffer. Orchard establishments would need to be set up to allow mowing in both directions. Out-front mowers (especially zero-turn types) are capable of mowing up to the tree and in conjunction with mulch, allow for good young tree growth. If possible, it is best to establish smaller blocks of trees sequentially across the farm as this aids in ensuring satisfactory management of young trees and reduces labour demands for the farm. Another option is to plant your trees and manage them for the first couple of years using herbicides to control grass growth. This option allows you to control the grass easily and quickly while minimising costs during the development period when you have no income from the trees.

What Level Of Losses Can I Expect?
The main variability in macadamia production is due to climatic conditions which can create fluctuations in yield. The overall loss from any farm depends on a range of variables such as orchard age, management practices, varieties, pests and diseases. Sound farm management practices are essential in curbing losses.

The biggest setbacks can come from pests and diseases. Luckily for me I haven’t yet
had diseased trees but pests are a huge impediment to nut quality. Following the spraying regime is essential to mitigating the damage pests inflict on your crop. Scouting is a must.
I have also learnt that things like pruning and mulching make a huge difference to tree health and productivity. Pruning after every harvest is essential. Mulching assists top feeder roots to feed from the mulch thus aiding nutrients uptake and tree health.

**Yields**
You harvest once a year between February and May, depending on planted cultivars. Pesticides and insecticides don't affect product quality but aid in protection of your nuts from pests that affect quality. Macadamia trees produce between 3-10 tonnes per hectare depending on cultivar/variety as well as farm management practices like spraying, fertilising, irrigating, pruning and mulching. Prices range between 2-5 USD/kg (nut in shell) depending on nut size and quality. The price soars for kernel (cracked nuts) to between 18-25 USD/kg or even more.

**Market**
Since 2010, access to market has been easier. Buyers approach farmers to purchase the nuts and the buyers do the exporting. Value addition is something that should be considered to increase the value these nuts bring to our country as a whole. In Australia, the macadamia industry is a billion dollar one, so we have to do a lot to catch up to them. The value chain is huge so the ability to farm these nuts isn't the only way you can make money from them.

* About 120 farmers grow macadamia nuts across the country. Apart from Chipinge, the nut is also grown in Nyanga, Chimanimani and Marondera. A major export market is China, the nuts mainly being exported in their shells. The hectarage planted to macadamias in Zimbabwe increased to 9,525 in 2019/2020 from 7,383 in 2018/2019 (according to the Government’s second round crop and livestock assessment report 2019/2020 season), but an increase in yields will not yet reflect as the newly planted orchards are not yet at nut bearing age.
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In this article we chat to Preveil Katakwa, an oyster mushroom producer from Nyazura. Preveil has been commercially producing oyster mushrooms for four years and as such, has a wealth of relevant experience and information to share with readers.

Farming Today: Please share a bit of background about yourselves with our readers.

Preveil Katakwa: Previ Mushrooms is a mushroom production entity based in Nyazura. We started producing mushrooms in May 2017, and continue to do so, today, despite the challenges faced by the coronavirus pandemic. Providing good quality, fresh and affordable mushrooms to our local market is our primary aim. I have a keen interest in researching mushrooms, implementing my findings and sharing them. I developed an interest in mushroom farming after realising how scarce mushrooms were in my community. Most of the available were either wild mushrooms which are limited to the rainy season, dried wild mushrooms or imported, fresh mushrooms, so mushrooms were beyond the reach of many. In order to close the gap, I decided to undergo some hands-on mushroom production training. During that time, it was also hard to come by a mushroom farmer, so by searching the internet, I met Masimba Mphalo of Mushroom Midway Farm in Marirangwe. I underwent training with Mphalo and from then on, started to implement what I had learnt, using the available resources necessary for mushroom production. We have been able to make great improvements from when we started, up until now, to the extent that we have been able to increase the capacity of our mushroom house and also increase our yield by more than 300%.

Farming Today: How has the arrival of Covid-19 affected mushroom producers,
input providers and production course providers in Zimbabwe?

Preveil Katakwa: The arrival of covid-19 has been a devastating blow to the mushroom industry as a whole. Mushroom producers, educators and sellers of inputs have all been equally affected by the effects of the lockdown which was imposed due to the global pandemic. Even though mushroom production, just like any other agricultural activity, has been deemed an essential service here, the effects of the lockdown have not spared it as well. Movement restrictions and the collapse of usual markets and the closure of borders are just some of the challenges that mushroom producers have had to deal with, resulting in some post-harvest losses, delays in obtaining raw materials and uncertainty in sales forecasting. Although most of the inputs used in mushroom production are available locally, logistical challenges have also increased. It has now become difficult to transport raw materials as well as to transport the final product to the market. Before the lockdown it was much cheaper to transport spawn (seed) using public transport, but now that intercity travel on public transport has been restricted it has become expensive for small scale producers to transport their spawn as well as other inputs. Most small scale producers do not have the capacity to make use of courier service providers and cold chain transport providers. The closure of borders has also affected mushroom producers who obtain their spawn from South Africa and this has led to them resorting to locally produced spawn - for a mushroom producer, a change in variety greatly affects forecasting. On a positive note, the lockdown has given mushroom farmers more time in their grow houses. They can now work on improving the hygiene of their rooms, diversifying into trying new mushroom types as well as other crops. The lockdown has also improved the electricity and water supplies of many suppliers of many producers, since the country has been having a constant supply of these services. This in turn greatly improves processes done in the production of mushrooms.

Farming Today: What is the status of the mushroom industry in Zimbabwe at present and how can it be built upon?

Preveil Katakwa: Currently there is a growing interest in the cultivation of mushrooms. This interest is mainly found in the urban areas where consumers are reluctant to buy wild mushrooms and we have seen an increasing number of backyard mushroom farmers. Spawn and other raw materials are readily available...
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To sustain and promote success
in towns. Raw materials used in mushroom production are mostly waste from processed agricultural materials such as cotton seed hulls. Urban mushroom producers are located close to spawn laboratories, substrate (compost) suppliers and to the market as well. This has created an increase in the number of trainers, spawn producers and consultants as well. However, the Zimbabwean mushroom industry still undersupplies its market. We still find a lot of imported mushrooms in shops and a few locally produced mushrooms. This can be attributed to cash flow challenges among farmers, electricity power challenges and lack of policies regulating the industry. This means there is a need to increase production. To improve mushroom production, Zimbabwean farmers have to adapt to the new global advancements that are happening in the field - these can be found on the internet, and in magazines and newsletters. Other solutions that can be considered by a farmer are to make good use of alternative and environmentally friendly sources of power such as solar power.

**Farming Today:** What are some of the problems facing producers here?

**Preveil Katakwa:** Some of the problems facing mushroom farmers in Zimbabwe is the inflationary environment in which they operate, electricity power cuts, lack of product knowledge among local customers and lack of policy regulating the mushroom industry among others. The inflationary environment has made it difficult for mushroom farmers to plan ahead. The ever-changing prices of inputs, packaging materials and transport costs cause a lot of challenges in cash flow consistency. Electricity power cuts have made it difficult for spawn suppliers to provide spawn consistently. Since some processes in the production of spawn need electricity in order to have optimum quality spawn. With this challenge it becomes difficult for the farmer to be consistent since at times there’s will be a shortage of spawn on the market. The lack of product knowledge also makes it difficult to sell the mushrooms. Mushrooms in Zimbabwe have always been clouded by myths. This is mainly attributed to the prevalence of cases whereby people die after eating poisonous mushrooms. Thus a consumer without the knowledge of the product tends to be reluctant to buy mushrooms. Another challenge is that mushrooms have always been expensive and have been out of the reach of many consumers. Thus potential customers still associate mushrooms with luxury foods, and in turn they hesitate to buy them.

**Farming Today:** What are the solutions to those problems?
Preveil Katakwa: There have been some efforts by local farmers to tackle the problems facing the mushroom industry in Zimbabwe. Now there is a mushroom association, Zimbabwe Mushroom Farmers Association (ZIMFA). The formation of such an association is a positive move towards finding solutions to the problems affecting mushroom farmers. For example, members of ZIMFA have been granted a permit to import spawn from South Africa, which means they can import good quality spawn. Also, the formation of such associations is helpful when approaching retail outlets for negotiating prices. Other solutions to problems affecting the industry may be done on an individual level - that is to be able to make financial statements as a farmer and study from trends one discovers, then to make sound decisions based on those findings.

Mushroom farmers also need to take some time off production and invest in educating potential customers sharing any beneficial information they have on Mushrooms. This will be helpful in dispelling myths and increasing awareness. Now a lot of platforms are available on social media and the Internet that can be used by farmers to share information.

Farming Today: How does the future of the industry look?

Preveil Katakwa: The future of the mushroom industry in Zimbabwe is one that has endless opportunities. We are living at a time where a lot of people are concerned about what they eat. Mushrooms contain a lot of helpful nutrients that boost our immune systems; with a lot of information on the health benefits of mushrooms being easily accessible and readily available on the Internet, more and more people are becoming aware of the benefits of consuming mushrooms. This, in turn, implies that the market for mushrooms is ever-expanding. Currently local national and producers are still failing to supply the local market - this is evidenced by the amount of imported mushrooms we still have in our local supermarkets, hotels and restaurants. More mushroom farmers are needed in Zimbabwe.

Farming Today: Value adding? Such as dried/dehydrated mushrooms?

Preveil Katakwa: In order to add value to mushrooms, some mushroom producers have started to produce dried mushrooms, mushroom powder and pickled mushrooms. Dried mushrooms and powdered mushrooms are very rich in vitamin D, that is if they have been dried using solar power. In addition, mushrooms are the only product on the fruit and veg aisles that contain vitamin D - so, dried mushrooms have an extra
shot of this beneficial vitamin. Pickled mushrooms have some spices added and are canned or jarred with a preservative. They have their own unique and tasty flavour since they also absorb the flavour of the spices marinating them. They also have a longer shelf life.

**Farming Today:** Advice for someone considering taking up mushroom production in Zimbabwe.

**Preveil Katakwa:** If someone is thinking of venturing into mushroom production in Zimbabwe they have to be willing to face the challenges associated with it. Focus is also needed in order to face some of the challenges that may arise. Potential producers should also be willing to go through some basic training on mushroom production, which would be helpful as growing mushrooms is a bit different from the usual cash crops! There are a lot of technicalities involved that have to be known in order for one to produce mushrooms profitably. Consultation is also key to successful mushroom farming. One would have to be willing to invest time and money into a venture to succeed.

**Farming Today:** Expand on the importance of social media to your marketing efforts here in Zimbabwe.

**Preveil Katakwa:** when we started mushroom farming in our area, it was a novel idea. The challenge then came about when we tried to sell our produce. A few people were familiar with the product. To tackle this challenge we had to look for ways to capture the interest of our market. We engaged the services of an advertising agency, Tarana Advertising. They started by creating a logo for us. We would put some recipes on stickers with our logo and stick those on to the product. This was successful but not up to our expectations. Tarana then designed a website for us. We created a Facebook page as well as a Twitter handle to go with it. These social media platforms have proven to be helpful in attracting more customers to us. We now receive calls and messages from customers all over Zimbabwe - to the extent that we now have a lot of customers. WhatsApp groups have also proven to be useful in our efforts to market our products.
Looking After Your Ewes

A newsletter from the Dorper Sheep Breeders Association to its members earlier this year, reminds farmers of the importance of nutrition and dosing in your sheep breeding stock. The information is essential reading and shared below. Reproduction is key to survival in all livestock farming exercises. It is important to measure and record the reproduction of ewe flocks during each breeding season.

Profit From Your Ewes

For you the farmer, to stay in business, you need to be profitable! This means your ewes must reproduce regularly and efficiently. It is unfair to expect any animal to do this if she is not being fed and dosed properly. From conception, your ewes must maintain body condition. It is a never-ending cycle that should not be broken, or loss of profits will likely result.

In order to overcome the above:
1. The ewe should be on a rising plain of nutrition, from reasonable to good – NOT from starvation to semi-starvation.
2. The object here, is to maintain the ewes’ condition - she should not lose or gain too much.
3. During the last six weeks of gestation, the lamb foetus does the majority of its growing and good nutrition is essential, to result in a healthy ewe, with good milk supply, capable of raising good size lamb/s.

For more information and tips, follow and like Dorper Zimbabwe on Facebook.
LIVESTOCK HEALTH: THE ZIMBABWEAN PERSPECTIVE

Fast fact: There is no room for inefficient livestock farming if we are to become food secure on the continent. For this to happen there must be transfer of health care knowledge through extension services in the livestock industry.

Small-scale commercial livestock farmers who farm cattle and small-stock on communal grazing lands are an important part of livestock production in Zimbabwe, as the population is growing land is becoming less available for grazing. Although small-scale farmers in Zimbabwe own by far the greater percentage of cattle, sheep and goats than commercial farmers, their productivity is woefully low in comparison. Small-scale farmers need to take charge and make changes. Without action, we face increasing poverty in communities, and ultimately permanent dependence on food aid from foreign countries.

MOVE OUT OF THE RUT
If change starts from within then you, the small-scale livestock farmer, must be accountable and manage for improved herd and flock production. This means some sensible thought as to what the problems are and how to achieve the needed improvements. One fairly obvious method is to support government that provide a decent extension service. Zimbabwean government should prepared to employ technicians and scientists genuinely interested in livestock systems who will work towards improving and maintaining animal health and production. Farmers need to be informed about the vet products available to treat and avoid parasitic infestations, and the important infectious diseases.

NEVER FOLLOW ADVICE BLINDLY
Profitable animal production depends largely on animal health and the adaptability of livestock to their environments. However, production at
any cost results in losses down the line and Zimbabwean stockowners should be wary of, for instance, focusing on improved carcass weights while forgetting that imported breeds may not have the necessary disease resistance to thrive in Zimbabwean environments.

**STOCK FARMERS NEED INFORMATION**

There is no doubt that agricultural extension services in Zimbabwe have suffered major declines in efficiency and the ability to deliver information and tools to stock farmers. Commercial farmers use dedicated herd (or flock) vets who run routine herd checks and are available for emergency call-outs. Commercial stockmen rely on their vets for guidance on vaccination protocols, feeding regimes, disease treatment and herd health management. Small-scale cattlemen may be remotely situated and/or they may not have the funds to pay for vet services. But they have their eyes and their experience and they should have some form of network among the farming fraternity. One thing about farmers – 99% of them are willing to help their fellows, and I have yet to meet members of the 1% who are not. Zimbabwean small-scale commercial stockowners need a transformation in the sector based on a better understanding of methods and scope of primary animal health care. This means empowering thousands of livestock owners by providing education and training in livestock health and production management. The transfer of knowledge and skills must come from veterinary professionals.

**TRAINING AND WHAT IT SHOULD ACHIEVE**

Livestock farmers should understand what causes the most important diseases, and how these diseases affect their animals. Stockmen should be aware of diseases that can be passed onto humans. There should be a comprehensive understanding of the income-generating value of healthy animals and the financial (and other) losses caused by disease or the death of an animal. It’s simple – if you lose an animal you have lost the profit of that animal. Here’s a useful motto: there is no such thing as an acceptable mortality – ever. If an animal dies find out why. If the cause was your lack of diligence take responsibility and never let it happen again. Farmers should understand how to prevent disease by vaccination and how to manage and treat acute, deadly diseases. Knowing what to use to treat and avoid parasitic problems and the most important infectious diseases is also critical. There is no substitute for diligent and daily animal checks. It is key to maintaining health and spotting problems early. It also means the farmer can act at the first sign of disease or health-related problem.
Stock farmers need to cultivate a relationship with vet product suppliers so that they can access urgently-needed treatments in time. Seasonally-needed treatments, like parasite control products and vaccines, can be ordered ahead of time.

Farmers must be able to treat basic disease conditions, such as open wounds, abscesses and lameness. Some knowledge on how to help newly born animals, treating post-calving problems, mastitis and so on is also necessary. For this type of learning the farmer needs hands-on exposure and interaction with a vet or technician. There will be problems that need a vet. Learn to recognise them. Primary animal health care provides improved technical skills for livestock owners, the right way to use animal health products and services, improved production, better disease surveillance and improved disease control programmes. The challenge is to use every possible means of communication to give livestock farmers access to primary animal health care.

By General Beven Mundida
(Livestock consultant)
Contact call +263 717 056 597
WhatsApp +263 776 420 161
Email: gbmundida@gmail.com
Syngenta’s Commitment To The Agricultural Recovery Plan

Syngenta Agro Ag is proud to have participated and sponsored in the National Economic Consultative Forum’s (NECF) 8th Annual Agribusiness Conference held on August 26, 2020 and beamed virtually across Zimbabwe. The theme of the Agribusiness Conference was “The Agricultural Recovery Plan,” and was launched by His Excellency, the President of Zimbabwe, ED Mnangagwa. From a stakeholder perspective the task before us is no doubt formidable and requires collaboration and contribution from all stakeholders in this industry. Three of the 15 initiatives that are proposed in the crop’s recovery plan are key to us at Syngenta as a panacea to success namely:

1. In the Climate Proofed-Presidential Input Support program where 1.6 million vulnerable households will be provided with basic inputs in order to produce enough grain (maize, an oil seed and a small grain) for household food security and surplus for sale. As this scheme requires a well-capacitated extension system as well as the use of centres of excellence to disseminate information to the participating farmers. We feel that private sector stakeholders can make contributions in the form of training, providing relevant up to date literature as well as good quality inputs that go in the basic production packs mentioned earlier. We anticipate that such an approach will bring the Pfumvudza concept to life.
2. In light of the need for Good Agricultural Practices (GAPs) in crop farming, the second initiative involves the capacitation of Extension Services Delivery through increased mobility, appropriate training (of trainers) in seed, CP, crop nutrition and equipment as well as equipping extension staff with digital technologies (software apps, cellphones and laptops).

These are critical in order for our Agriculture to catch up with Global Trends in Extension service provision. We already have a comprehensive network of personnel in the AGRITEX which need a step change in terms of their way of doing business. At Syngenta we already contribute towards this by always availing modern innovative solutions and information timeously to AGRITEX.

3. The third initiative which involves innovation and modernisation of agriculture to ensure competitiveness, requires an urgent adoption by the private sector of relevant parts of the proposed interventions. At Syngenta, for example, we value accurate, timeous information/reports that can be derived from the use of digital satellite technology. This information can be used by decision makers on cropping at farm and/or national level. One such technology is being demonstrated in country for potential future use at various levels. Other relevant technologies include mechanisation, irrigation automation, precision farming, drip irrigation, fertigation and smart greenhouses.

It is of utmost important to maintain the platform of cross-pollination of ideas between government and private sector to ensure that the Crops Recovery Plan is successful.
The Government of Zimbabwe early on in the year, set a pre-season yield target of 400,000 tonnes for our winter wheat programme this season. They are doing everything they can to stimulate and encourage a massive increase in wheat production - last year the total national yield was recorded as below 100,000 tonnes, a big drop from 2018’s yield of 200,000 tonnes (source: indexmundi.com). This was due to widespread power cuts and also a shortage of water for winter irrigation. With foreign currency reserves in high demand and short supply, government is making an effort to minimise the import of basic commodities, in favour of increased local production. This is also in an effort to boost food security, as figures for annual local consumption requirements range between 350,000 tonnes and 475,000 tonnes. However, the Ministry of Lands, Agriculture, Water and Rural Resettlement recently revised the figure of 80,000ha planted to winter wheat to achieve that target, to a lower 42,000ha, a major reason being scarce water resources after our second consecutive year of less than average rains. Low levels in dams and reservoirs, rivers and boreholes countrywide present a major obstacle to planting a large national hectarage. However, there is some consolation that this is higher than - almost double - 2019’s planted hectarage of 24,184ha.

Farmers wanting to venture into wheat production face the added expense of investing in irrigation infrastructure if they do not have it already. Self financing is not an option for most. Furthermore, tariffs and levies (for example Zinwa) are an additional expense to growing costs. An improved business environment for wheat is essential, given its rise in importance as a staple crop in the country, with a high demand for bread in urban areas. Government recently announced that bakers would be obligated to implement contract growing schemes to directly meet at least 40% of their input requirements, rather than importing.
their flour. The Reserve Bank of Zimbabwe spends about USD 12 million on the monthly importation requirements of 30,000 tonnes.

There will always be an element of importation of flour, as it is required for gristing. “Gristing refers to blending and based on the type of flour and characteristics, the miller decides which wheat and in what proportions should be used in the grist. The grist for a flour is chosen by a variety of methods. But it is generally based on the miller’s experience, wheat quality characteristics and knowledge of the customer’s process and needs”. (flourpedia.com). As explained by a miller in Harare, factors such as moisture content, falling numbers (see end of story), grain colour, protein and gluten levels and the end product for the flour, can all play a part in gristing. He adds that millers in Zimbabwe have to import high grade wheat to blend with our wheat, and one reason being that our climate, while suited to growing winter wheat, does not have a cold enough winter to produce a high enough grade.

Some wheat farmers do sell privately, on a contract basis to commodity brokers within Zimbabwe, and inputs are offset against crop production payments. Farmers benefit from this kind of arrangement as they have a guaranteed market offtake. Investigation revealed that whilst producing some of our local requirements, the contribution from this sector of farming is not large enough to meet the total national requirements.

Furthermore, crop yields have to be high enough to cover input costs and turn over a profit for farmers. Large areas need to be grown for scale of economies to also play a part. Scale of economies also comes into play, whereby the bigger you are, the cheaper the cost of production per unit (the general rule is that the greater the production of an item, the cheaper the item becomes to produce.) This is because of two reasons, firstly to produce any item, there are two sets of costs to take into account:

1. variable costs, which refer to necessary items to enable production, such as fertilisers and chemicals etc, and fixed costs or overheads. Most products need a minimum number of times to be produced successfully, but can vary slightly.
2. Fixed costs or overheads include things like levies, management fees, fuel costs etc.

Variable costs for cropping are pretty standard across the board, however when it comes to scales of economy, discounts from suppliers may be negotiated for larger volumes, and transport costs per item may also drop. On the fixed costs,
there are many costs that are fixed regardless of the number of items produced, therefore the more items produced, the lower the fixed cost per item.

**Importance To The Nation**

It works well in a double cropping system; high productivity can offer high returns. The Seed Co Group’s Wheat Production Guide calls it the second most important cereal after maize in Zimbabwe and says: “We have always been encouraging farmers with irrigation to adopt the double cropping concept in order to improve their bottom and top line stories at farm level as well as to spread coverage of fixed costs per year. Growing wheat in winter also aid spread of cash flow on the farm. The basic farm business principle is that farmers should have at least two major crop harvests per year supported by other complementary crop sales/ventures after every two months. We generally recommend diversity in terms of crops and other non-crop ventures on the farm. This generally ensures smooth running of farming concerns. Maize-Wheat-Maize or Soybean-Wheat-Soyabean are some of the common rotations.”

The importance of a revived local wheat farming sector to the economy of Zimbabwe cannot be over-emphasised. Seed Co goes on to say: “Since the nation is in a drive for import substitution, producing wheat locally will result in forex savings which would otherwise be channelled to other more productive related priorities of the economy. The national annual wheat/flour requirement is about 350 000 MT and over the years Zimbabwe was producing less than a quarter of that. One can imagine the savings if we can produce this sum requirement locally.” Currently wheat contributes between 4-5% (a significant chunk) to the agriculture GDP.

“Zimbabwe used to achieve some of the highest national average yields of wheat between 5-6t/ha in the past as compared to the current global average of 2.5 – 3t/ha. The genetics (varieties) are still there and if we get our management right we can achieve in excess of 10t/ha in the high potential areas. Using the current GMB prices, the break-even yield (when the gross profit is zero) is 4 tonnes/ha. Some good farmers are getting above 8 tonnes per ha and even up to 11 tonnes/ha.”

The last time we came close to meeting national demand was back in 2001, when we produced 325,000 tonnes (source: indexmundi.com), before the Land Reform Programme.

Falling numbers over 250 seconds are most suitable for the bread-baking process. In contrast, FNs above 350 seconds may indicate that the flour should be supplemented with a form of amylolytic enzyme or with malted grain flours. Most large-scale bakeries work with an ideal FN range of 250–280 seconds.
Potatoes can be considered as “heavy nutrient feeders”. A potato crop yielding 25 - 30 tons per hectare will remove approximately 120 - 140 kgs of nitrogen (N), 30 - 40 kgs of phosphorus (P2O5) and 160 - 250 kgs of potassium (K2O) from your soil.

Potatoes are not the most efficient crop with regards to nutrient uptake. This means that basal fertilisers must be placed near the active root zone depth in order to allow maximum uptake. In cases where a planter is not being used, the basal fertiliser should be placed at least 10cm deep and approximately 5cm to the side of the tuber in order to promote interception. If the basal fertilisers are placed too close to the tuber then the germination of your potatoes could be hindered. This is due to the water retention caused by the high salt concentration in the fertiliser. You could also experience sprout scorching by nitrogen.

Superfert Fertilizer has developed a Super Potato Blend, with an NPK make up of 8% N, 18% P2O5 and 24% K2O. This blend is usually applied at a rate of 1000 to 1250 kg per hectare, with some farmers using rates as high as 1500 kgs per hectare. This basal fertiliser allows farmers to apply maximum nutrition in a cost effective way, so as to factor in the high cost of top dressing applications. It must however be noted that soil tests are the most accurate method for a farmer to determine how much basal fertiliser they need on their farm.

Our Super Potato Blend is a low chlorine basal fertiliser, with a maximum chlorine value of 4%. High chlorine levels hinder the uptake of Nitrates (NO3), preventing the crop from getting sufficient nitrogen for vegetative growth. Chlorine also reduces the gravity, starch
levels and taste of the potato crops, reducing the quality for both the fresh and processing potato markets.

The N:P:K combination is perfectly designed to help the plant during the early part of the season until such time when top dressings are required. The high levels of phosphorus help the tuber develop a robust root system by promoting rapid cell division. High levels of phosphorus have to be applied when planting because potatoes can use 10 - 20% of the total applied phosphorus. During winter phosphorus may need to be applied at a higher rate due to the slow uptake during the cooler season. Phosphorus deficiency can result in underdeveloped roots which result in stunted crop growth and lower yields.

During planting potato tubers do not require high levels of nitrogen but it is imperative that they receive sufficient nitrogen to promote vegetative growth in order to build a canopy in the shortest time possible. Early canopy development is crucial as it gives more time for tuber bulking increasing the probability of getting higher yields. Late nitrogen applications can result in delayed maturity, poor skin quality, short shelf life and lower yields. Superfert’s potato blend contains 8% nitrogen which is higher than most basal fertilisers but not so much that your tubers will be injured. It must however be noted that the total nitrogen requirements of potatoes will depend on the variety, with late maturing varieties requiring more nitrogen than early maturing varieties and some varieties having better nitrogen use efficiencies than others.

Potassium works best when placed in the furrow during planting, rather than placing it or broadcasting it on top of the ridge. At least 35 - 50% of the potassium can be applied before planting, with the lower rates applied in sandy soils due to the high probability of leaching. A deficiency of potassium reduces the plant’s immunity to diseases, therefore it is advisable to incorporate a good amount of potassium early into the season. Superfert potato blend supplies a considerable amount of fertiliser for early growth development preparing potatoes for vigorous growth throughout the season.

Potassium is required in larger quantities than any other nutrient for potato production. Although deficiency of any nutrient will have a negative effect on yield, deficiency of potassium will have the most severe effects on yields which makes selecting a fertiliser that gives you a considerable amount of potassium a vital step in potato production.

K.Mashanda
Superfert Agronomy
For more information contact us via whatsapp on +263 784 519 669
Irrigation is a delicate practise of applying the right amount of water at the right time. Taking into consideration that crops do not only need water but also nutrients to be applied in a balanced and uniform way in order to reach maximum potential. Therefore, installation of an effective irrigation system is of paramount importance.

**The Centre Pivot**

Sometimes referred to as a machine, this is a mechanised system that applies nutrients in a circular pattern around a central point. It consists of a radial pipe supported by towers that pivot around a centre point. Along the radial pipe, nozzles are equally spaced to ensure optimal efficiency and coverage. As the machine rotates, water is released from the nozzles which irrigate the crop beneath. These machines can come fitted with additional extras and are available in a variety of sizes. DripTech can supply centre pivots to irrigate an area anywhere from 7 hectares to 120 hectares.

**Advantages**

A pivot system is an efficient and effective method of irrigation;
- Efficient water use, which prevents water runoff;
- Lower labour cost and maintenance cost requirements as compared to traditional overhead sprinkler systems;
- Operating at a lower pressure thus conserving energy;
- Easier to manage;
- Long life;
- Good resale value.
Centre Pivot ST168
Otech built their ST168 to handle the full range of operating conditions that today’s growers need. A machine that is incredibly robust, efficient and effective. The ST168 can come equipped with either a fixed or towable centre. The towable centre reduces your installation cost per hectare, enabling you to irrigate two or more fields. Otech machines also support the application of fertilisers and pesticides.

Key Features of the ST168:
- Fixed and towable options;
- Standard and high clearance;
- Intelligent controls. Otech has refined its control panel to be complete and clear, with an interface to suit any customer’s needs. Additional remote access management tools are also available (weekly programming, start/stop and sector variable irrigation to name a few);
- Availability of the Nelson, Senninger and Komet sprinkler packages;
- Countrywide service and backup support from Driptech’s dedicated pivot division.

Advantages of the ST168:
- Steel quality S275;
- Equipped with UMC motors and gear boxes;
- Schneider electrical components;
- Galvanising NF EN ISO 1461;
- Remote access and control.

About Otech
Otech is one of the world leaders in precision irrigation, established in France in 1980 in Puyoo, in the heart of Nouvelle-Aquitaine. All operations are carried out in-house, from design, fabrication and storage.
Visit your nearest DripTech Irrigation branch for your free quote. Branches: Coventry / Glenara / Harare Drive / Second Street / Mutare.
Contact 0867 700 7000
pivots@driptech.co.zw
www.driptech.co.zw
Windmill Pvt Ltd is introducing its new product called Compound C Xtra (5:15:12 + 40% Lime) which is an improved granular inorganic compound fertiliser.

Compound C Xtra is a basal fertiliser that is essentially similar to our ordinary Compound C (5:15:5). It has Calcium and magnesium which are both beneficial to horticulture crops.

Compound C Xtra can be used in crops like tobacco, legumes, onions, cabbages and tomatoes among other crops. All these benefits come at no extra cost as our Xtra range is the same as our ordinary Compound C.

Also Windmill Pvt Ltd is introducing Compound D Xtra (7:14:7 + 40% Lime) which is a new improved granular inorganic compound fertiliser to be used in cereal crops. Compound D Xtra is a basal fertiliser that is essentially similar to Compound D (7:14:7) which farmers are familiar with. It has Calcium and Magnesium which are both beneficial to cereal crops. Compound D Xtra can be used in crops like maize, wheat, barley, rice, sorghum among other cereal crops. Compound C Xtra and Compound D Xtra contains slow releasing lime which is a great advantage to both soil and crops because it increases the pH of acidic soil, reduce soil acidity and increases alkalinity, it provides a source of calcium for crops and improves water penetration for acidic soils. Benefits from using these lime based compounds may occur within the first few months after application and will work directly on applied station.

These slow-release fertilisers are significantly less likely to leach and they release a small, steady amount of nutrients over a course of time thus they last longer. Compound C Xtra and Compound D Xtra are now available within our entire shop network.
INTRODUCING COMPOUND C XTRA

Compound C Xtra is a new and ‘IMPROVED’ granular inorganic compound fertilizer… brought to you by your leading fertilizer producer - “Windmill (Pvt) Limited”. Compound C Xtra is a basal fertilizer that is essentially similar to compound C (5:15:12) which farmers are familiar with. Compound C Xtra has liming material incorporated. Compound C Xtra has Calcium and Magnesium which are both beneficial to plants.

NEWS FLASH

Compound C Xtra is the same price as Compound C
Compound C Xtra is used at the same rate and in the same way as Compound C

for further information, please get in touch with your Windmill Agronomist
Remember….to achieve farming success, always have your soil tested and corrected appropriately!!!
There is a statistic that a woman in a rural community spends an average of four hours a day in search of water and firewood. Solar powered water pumps can transform the lot of the rural woman by bringing water to her doorstep. Time and effort saved can now be used more productively and can result in the emancipation and economic empowerment of those vulnerable communities. How so? By giving them an opportunity to grow irrigated cash crops as well as improving yields of crops grown for household consumption, selling the surplus and enhancing incomes.

If used in such a manner, positive returns on a community or private investment will soon be realised, as there are also reduced operational or fossil fuel input costs. It is no exaggeration to say that solar pumps can directly and drastically improve the lives and livelihoods of remote rural communities. The advantages of solar pumps as a means of providing water to remote areas in Africa cannot be overemphasised. Furthermore our world desperately needs the implementation of clean energy technologies to reduce the energy consumption and waste of natural resources. Solar energy is the clean energy of the future and Frecon Solar believe that future is now. “We believe that it has the potential to become the ultimate solution for future energy and a powerful weapon to confront climate issues.”

Frecon offer life transforming technologies for smallholder farmers by providing low cost solar powered irrigation, pump services and batteries. Frecon Solar as a company undertake to deliver clean and affordable electricity to the nation and has continued to do so even during the coronavirus pandemic, arguably the toughest period we have all faced in a very long time.
Choosing a system that will reliably deliver the water becomes of the utmost importance. All systems sold by Frecon Solar are guaranteed to perform in the harsh African climate and investing in asolar water pumping system is a way on investing in yourself and your community. As the price of solar power falls, it is moving into the mainstream, and is increasingly being taken up by lower income households. A quarter horsepower pump is strong enough to supply water for domestic use and a 100 horsepower pump is capable of irrigating between 75-100ha. Frecon Solar supply and fit the complete package needed and the company prides itself on creating customised solar energy solutions for Zimbabwe, using the world’s best technology. Solar power has the potential to become the ultimate solution for future energy and a powerful weapon to confront climate issues and Frecon Solar is doing its bit to make a difference by empowering remote communities and by providing sustainable clean energy solutions to them.

Our climate with its nearly year-round sunshine means that solar power is abundant and importantly, sustainable. It can be harnessed and used in areas previously not utilised due to the lack of a reliable and accessible source of water, be it dam, well or borehole. Such areas are thus transformed into productive lands. Importantly water is available throughout the dry months thanks to solar pumps. Livestock benefit too as they now can have easy access to clean water. It has now become possible to operate, cost effectively, off the grid in rural areas. Where there is solar power, water pumping can become a reality - no matter how remote the location. Solar, in these instances, also becomes more cost effective in areas without grid power as there is now no need for transformers, power lines or related infrastructure.
TRIATIX & SUPADIP
You will never go wrong with Coopers dips

Agro-dealers and farmers get your dips now!

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HARARE
29 Anthony Ave, Msasa.
Harare, Zimbabwe.
Tel: +263 (242) 486119/127/134/146
VOIP: +263 86 7700 0329
Gabriel · 0786 322 240
Oswin · 0773 724 088

BULAWAYO
2 Falcon Street, Belmont.
Bulawayo, Zimbabwe.
Tel: +263 (292) 460 575
VOIP: +263 86 7700 0327
Nathaniel · 0772 681 602

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