

# ZiMUNDA

## FARMING

NEWSLETTER

Issue 37



FREE EMAIL SUBSCRIPTIONS: [WWW.ZIMUNDA.CO.ZW](http://WWW.ZIMUNDA.CO.ZW)  
WHATSAPP +263 772 443 638 | ADVERTISING +263 772 639 304

**Zindu**



**ARE YOU  
STRUGGLING  
WITH EMPLOYEE  
CLOCKING?**

## INTRODUCING OUR LATEST TIME AND ATTENDANCE SOLUTION.

Our solutions works for **farmers,**  
**miners** and all **corporates**

For more information contact us via  
**email [marketing@softrite.co.zw](mailto:marketing@softrite.co.zw)** or  
call on **0242 782 720 / 0775 760 951**



# Contents



**05** The Use of the Mashona  
in Composite Breeding



**23** Linchpins for Increasing  
Productivity



**18** Smallholder Pig Production  
Constraints



**08.** The 80th Annual Congress of the Commercial  
Farmers' Union of Zimbabwe

**11.** Have You Had Heavy Rains, Hail, And Strong Winds?

**14.** Tapping into Soil Microbiology to Reduce the  
Fertiliser Budget

**16.** Sucker Management Advisory

**20.** Zimbabwe is to Host the Next Biennial African  
Plant Breeders Association's (APBA) Conference in  
2025 at Victoria Falls.

**Bindu**  
Media

### OUR TEAM

**PUBLISHER**  
**Mike Garden**  
[mikeg@softrite.co.zw](mailto:mikeg@softrite.co.zw)  
Cell: +263 772 209 162

**EDITOR**  
**Vimbai Ruvengo**  
[editor@zimunda.co.zw](mailto:editor@zimunda.co.zw)  
Tel: 024 278 2720  
Cell: +263 782 117 840

**ADVERTISING & MARKETING**  
**Rudo Nhamoinesu**  
[pr@softrite.co.zw](mailto:pr@softrite.co.zw)  
Tel: +263 772 639 304

**Rutendo Nhamoinesu**  
[support@zimunda.co.zw](mailto:support@zimunda.co.zw)  
Tel: 024 278 2720  
Cell: +263 774 923b137

**DESIGN & LAYOUT**  
**Wilbroad Ishe Bryce Mbofana**  
[design@bindu.co.zw](mailto:design@bindu.co.zw)  
Cell: +263 779 540 202

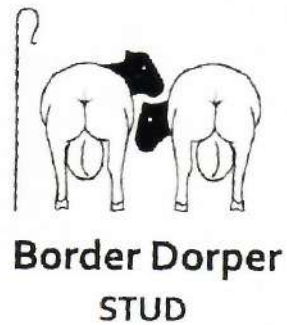
**PRINTER**  
**Paragon Printing and Packaging**  
17035 Cedora Road, Graniteside,  
Harare  
Tel: 024-2773021/7  
Email: [mark@entpress.co.zw](mailto:mark@entpress.co.zw)

### DISCLAIMER

The aim of ZiMunda Farming is to provide correct and relevant farming information to farmers. Every effort is made to check the content of every article, the directors will thus not be held responsible for errors or omissions in such articles. Farmers should thus consult with the references and resource people before making any financial or production decisions.

**BINDU MEDIA OFFICES**  
37 Victoria Drive,  
Newlands, Harare





Rose van de Ruit

(+263) 712208590  
 rosevdr@gmail.com  
 Goromonzi Rd, Ruwa

**Fertility, Hardiness & Efficiency**  
 We strive to deliver the best Nkone genetics available to the cattle breeder...



George Hulme ☎ +263 775 737 958 ✉ hulme.george41@gmail.com  
 REGISTERED SEMEN FOR SALE AT ZHB

EST 1993

# HAVE

Boran, Beefmaster & Nkone Stud

FOUNDER MEMBER

## Unique Genetics

Bred from the very best, carefully selected, original genetics since the early 1990's

FOR MORE INFORMATION CONTACT:  
 Mark Hook: +263 772 236 491. email: mombe@zol.co.zw



**Your #1  
 market for  
 lambs & mutton**



+263 772 913 595



Ensure only the highest yields for this season's

# SUMMER HARVEST

Orgfert's climate-smart fertilizers optimize maize growth in harmony with the natural environment, ensuring thriving and flourishing crops and exceptional yields.

**Harvest with Pride, Kohwa Zvinodadisa!**



☎ 0785 684 917  
 ☎ 0785 672 500  
 ☎ 0882 121 214

✉ Orgfert1  
 f Orgfert  
 www.orgfert.co.zw

# The Use of the Mashona in Composite Breeding

**By Jaco Erasmus**

The aim of the Field Day is to discuss the use of a Mashona composite, specifically largely a Mashona/Beefmaster composite and to present and discuss actual statistics and performance figures obtained.

## Brief History Of The Herd

We will look at the remnants of the core of a herd taken over by Willie Swan/Koala Park in 2016. Genetics from one year's heifers used to restart the herd came from Johann Zietsman, Malcolm Mackintosh, and the O'Neill Brothers. Due to interventions resulting from Land Reform the herd was largely restarted with 4 bulls selected by my cousin Danie from the O'Neill brothers in 2005/6. The herd was effectively closed for about 10 years and progeny was selected from these bulls and our heifers and selected for fertility, adjusted 205-day weight ratios, and adjusted 18-month weight ratios. Our aim was to develop a biologically and economic efficient herd. Production statistics are included below. Land reform intervened again, and Willie Swan/Koala Park took over the core of our herd. Willie infused Beef Master and possibly Boran/Angoni genetics. He calls them Sangas and they have grown into a significant number. He will most likely use these composite bulls back on the herd. His intention is also to use purebred Mashona from Maree Osborne and Helen Lock on some Beefmaster heifers. I hope to be involved with the herd going ahead and the comparison with the other 5 breeds he carries.

heifer bulling.

- Average 205-day weaning weights of 208 kg.
- Cow weights at weaning of between 425 and 430 kg.
- Adjusted 540-day weights (18 month) of 294 kg for a 9-year period.
- Around 18 Month marketing weights of 314 kg.
- Growth rates of 116 kg between weaning and marketing at around 18 months.
- Live weight of fattened steers in marketable condition recorded at an average of 412 kg.
- Live weight of cull cows, 446 kg.

## THE COMPOSITE AFFORDS FLEXIBILITY IN MARKETING.

### Breeding and selection

Detailed records on performance were kept and replacements were selected from owned heifers and bulls. The herd was effectively closed for a period of 10 years. The bulls retained were run on a similar program to the other stock. This resulted in bulls selected that were suited to the conditions obtaining. Emphasis was placed on fertility with heifers first running with age-mate bulls at around 12-15 months of age. Replacements were selected from cows that had never missed a calving and were pregnant again. Of these those with the highest 205-day weight ratios were selected.

## AN OUTLINE OF THE PRODUCTION PRACTICE FOLLOWED IS SUMMARISED BELOW.

### Breed/Type

The concept behind the Beefmaster/Mashona composite was that it would combine the hardiness, fertility and disease resistance of the Mashona with the growth potential of the Beefmaster breed. The composite has proven to be adapted, early maturing, yet able to achieve the following results grazing in a sour veld area of Zimbabwe at recommended supplementation levels and at stocking rates ending on 1 AU to 3 ha.

- Average pregnancy percentage over an 8-year period of 84%. Effective calving percentages over 100% given yearling



[WWW.ZIMUNDA.CO.ZW](http://WWW.ZIMUNDA.CO.ZW)





18-month weight ratios were considered in bull selection. In effect the concept of selecting the “biggest little cow” adapted to our environment which included normally recommended supplementation level was followed.

Marketing

Carrying capacity was reached and high calving percentages enabled the selling of half of the weaner heifers primarily to the local community. This enabled a relatively constant herd size. Excess bulls selected were again sold, to primarily the local community. Steers were carried through to around 18 months of age when it was decided whether to sell them live for onward pen fattening or to pen fatten on farm. This decision was made on the economics given the live price, expected slaughter price and the cost of feed.

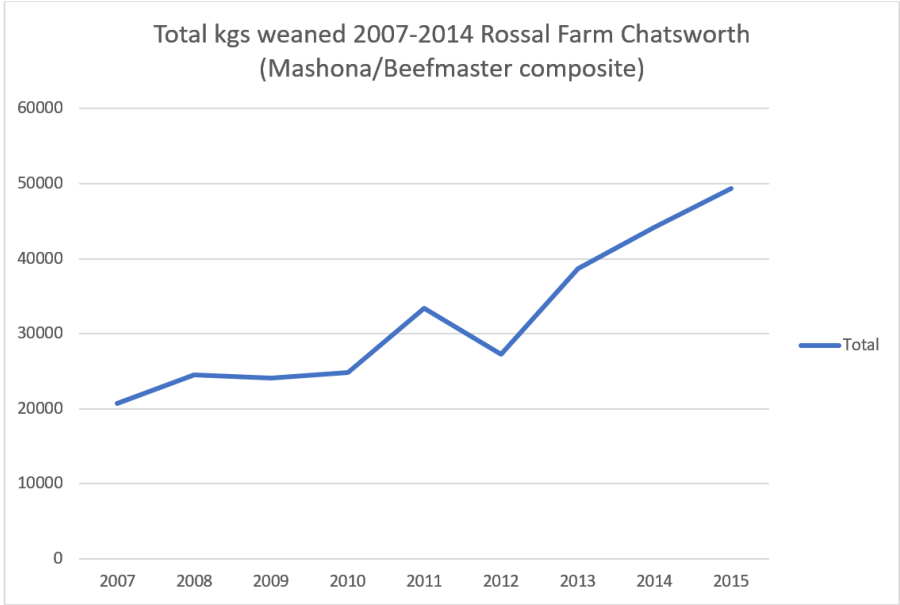
Grazing and Supplementation

The aim was to make the most of the natural grazing; however, appropriate (recommended) supplementation was provided to balance nutritional shortfalls for an economic response to be attained. The basics of winter protein supplementation, summer phosphate

supplementation and applying appropriate stocking rates/ stocking intensities were seen as instrumental practices in ensuring the productivity and profitability of the beef herd. Stocking rate could have been considered on the high side for the area at around 1 Animal Unit to 3 ha, against the more conventional recommended level for this area of 1 AU to 4ha. Of interest is a graph showing total kgs weaned (weights \* numbers) over a period, there is a dip in total weight weaned in 2012. Records show that it was experimented with a higher ratio of urea-based protein to natural protein (around 50:50) in 2011 as opposed to the Zimbabwean research recommendation of 2/3 natural protein vs 1/3 urea based protein utilised in the other years and this had an effect on pregnancy percentages.

Of interest to me is letting the environment dictate the right sized animal to produce. I recently came across a quote by Russell Clark in South Africa. “Research has shown that medium sized cows of around 400kg produce more weaner calf per kg of dam mass as opposed to both smaller and larger cows on a given area of land.” I have got hold of him to get more details on this research.

My thinking and breeding objective was to produce the heaviest weaner or 18-month steer from a cow that never missed a calf and was pregnant again. This would moderate mature size and effectively select for the “biggest little cow” given your environment. I leave you with the following quotes as food for thought: “Certainty is the enemy of growth. Nothing is for certain until it has already happened and even then, it’s still debatable.” Mark Manson And “That which we perceive to be the unquestionable reality, is in fact based on uncertainty.” I believe it is important to maintain a “growth mindset” and remain open to the fact that there are more right answers out there. For more insights on the Mashona in Composite Breeding email Mr Jaco on jnsa32@gmail.com



# SILAGE FARMING

Good News Dairy Cattle Farmers!!!

Get your affordable maize silage farming inputs this summer season only at CBZ Agro-Yield.

## Silage Contracting : Steps to follow

1. Farmer approaches Zimbabwe Association of Dairy Farmers (ZADF) and obtains recommendation for contracting under the Silage Facility.
2. Farmer approaches CBZ Agro-Yield with the letter of recommendation.
3. Farmer receives Application Form, Livestock Insurance Proposal Form, Security Agreement and Stop Order Agreement.
4. Farmer approaches their raw Milk Processor for completion and signing of the Stop Order Agreement.
5. Farmer completes the Application Form, Insurance Proposal Form and Security Agreement Form.
6. Farmer submits to a participating CBZ Branch all the documents together with KYC document listed on the application form.
7. CBZ Agro-Yield processes the application after verification of security.
8. Farmer signs Silage Grower Contract and Addendum
9. Account is activated and farmers access silage inputs as listed on the signed addendum and proceeds to produce the silage

For more information Contact the Agro-Yield team on:  
Contact Centre: 460/461 | Client Services: +263 713 403 876





# The 80th Annual Congress of the Commercial Farmers' Union of Zimbabwe



## History of the Commercial Farmers' Union of Zimbabwe Farming Oscar Award

The Commercial Farmers' Union of Zimbabwe Farming Oscar Award has a long and proud history having been introduced in 1961 by the late Mr. C. G. Tracy during his term as Vice President of the Commercial Farmers' Union as an award in recognition of "those who have generally done well for agriculture". This annual Oscar has become known as the "Farming Oscar" to be given to some person or persons who have given outstanding service to agriculture and has been awarded to people who have contributed to the industry in the widest sense.

Over the years winners have been chosen from the practical and scientific disciplines of agriculture, as well as from the administration and leadership roles, with winners selected in recognition of having contributed significantly to the agricultural progress in.

### DR MARIO BEFFA CFU FARMING OSCAR 2023

This year's Oscar recipient was born in Chinhoyi and attended Hillside Junior and Milton High schools. He was a Prefect and is an accomplished distance runner. He has run the Two Oceans and Comrades Marathons on several occasions and runs for pleasure.



Dr Mario Beffa giving a presentation at the annual Beef School.

After school he enrolled at the University of Zimbabwe, initially intending to study Crop Science but fairly quickly switched to Animal Science. Here, Duncan Hale inspired him and his class of 7 students with cutting edge technologies in reproduction. He qualified with his BSc [Animal Science] in 1983.

He then started working at Matopos Research Station as a research officer. He was offered a scholarship at Texas A & M University and completed his Master's Degree in 1986. Texas A & M is recognised as one of the top livestock universities in the world. He returned to the research station and worked there until July 1999 as Chief Research Officer. En route to USA, the Oscar recipient first met Sharon in the National Parks library when visiting his friend and UZ classmate, Brian Child. She was working for National Parks as a game ranger. That first meeting led to a friendship and the two married in 1996.

His MSc thesis was based on Inbreeding in Afrikaner cattle. He developed this topic further for his PhD thesis which he completed in 2005. He achieved top credits at the University of the Free State in Bloemfontein and wrote 4 publications in the South African Society for Animal Science Journal and was named their eminent Animal Scientist of the Year, an award he was flown to Cape Town for its presentation. While at Matopos, he was a Council member of Zimbabwe Herd Book as representative for Matabeleland when Jef Friedrichs was Manager. He has always had a keen interest and passion for the indigenous cattle breeds of Zimbabwe as well as pedigree breeding. He served on the Council from



1988 until he took over from Jef as Manager of ZHB in 2009. Spearheaded by the Cattle Producer's Association, the Livestock Identification Trust and Zimbabwe Cattle Traceability scheme was set up by the farmer's unions, cattle farmers and the Veterinary Department in 1999 with the objective of continuing to export beef under the Lome Agreement to Europe. The late Dr Hargreaves and the Veterinary Department regulated traceability by twin tagging under the Animal Health Act. This was the first recognised traceability scheme in Africa and is self-supporting to this day even though the traceability function and exports stopped in 2001. The Oscar recipient was the founding General Manager and is a post he continues to hold and he has consulted on several traceability schemes in Africa and Georgia, Mauritius and Azerbaijan. LIT also administers the Zimbabwe Quality Assured Pork [ZQAP] scheme started by the Oscar recipient in conjunction with Doug Bruce and Kevin Parsons in 2000. This is the oldest Quality Assurance Scheme in Africa and continues today.

He sat on the Livestock and Meat Advisory Council (LMAC) and this robust organisation has grown over the years under his guidance when he took over the running of this organisation and orchestrated its self-funding model. The LMAC has become the lobbying and advocacy mouthpiece for all livestock value chains, including aquaculture, goats, rabbits, pig and poultry value chains, abattoir operators, meat processors and stockfeed manufacturers. He managed the finances, meetings and minutes of the Associations and administered all their affairs and events. He kept exemplary records, provided reports and statistics of the livestock industry. He had the vision to bring two agricultural economists, Chrispen Sukume and Reneth

Mano, into the fold to assist with the running and services of LMAC. Since 2020, the Oscar recipient has slowly stepped aside so that he can focus on ZHB and pedigree breeding and the two economists now manage LMAC.

He was appointed as the Chief Executive Officer of the Livestock Registering Federation in South Africa in October last year, creating synergies between South African, Namibian and Zimbabwean pedigree breeders. To be asked to fill this position is a great honour for him and ZHB. Working with the Agricultural Business Research Institute in Australia, he is promoting performance recording using HerdMASTER for on-farm data capture and BREEDPLAN for genetic evaluations.

The Tuli Cattle Society and latterly, the Brahman Breeders Society, have had breed runs done that compare animal data across the region. More recently, genomic reference populations are being developed for various breeds. He has been instrumental in keeping Zimbabwe and its breeders on par with the latest technologies in the world.

This year's Oscar recipient, who I will now name is Dr Mario Beffa. A man of keen intellect and integrity and is fully dedicated and passionate about the livestock industry of this country. Mario has served the industry both locally and abroad and has presented papers on many occasions. His near 40-year journey in the industry has been ably followed and supported by his beloved wife Sharon. He has a great sense of humour and despite his achievements remains humble and approachable. He helps all those who ask him for assistance. Mario is a great communicator and is very intuitive and he has led the industry in an exemplary manner.

**He holds the industry's highest respect and for this the CFU awards Dr Mario Beffa the Oscar Award for 2023.**



## 2-PHASE BROILER FEED

Reap the benefits of our new & improved **COMBINED FEEDS**.



**AVAILABLE IN 50KG, 25KG AND 10KG BAGS  
AT ALL FEEDMIX BRANCHES & AGENTS NATIONWIDE.**

**PROMO  
PRICE**

**Starter / Grower  
Crumbs 50kg Bag  
US\$29**

**PROMO  
PRICE**

**Grower / Finisher  
Pellets 50kg Bag  
US\$28**



**LOW COST**

Feed more for less

**MORE PROTEIN**

High weight gain

**EARLY MATURITY**

Increased productivity

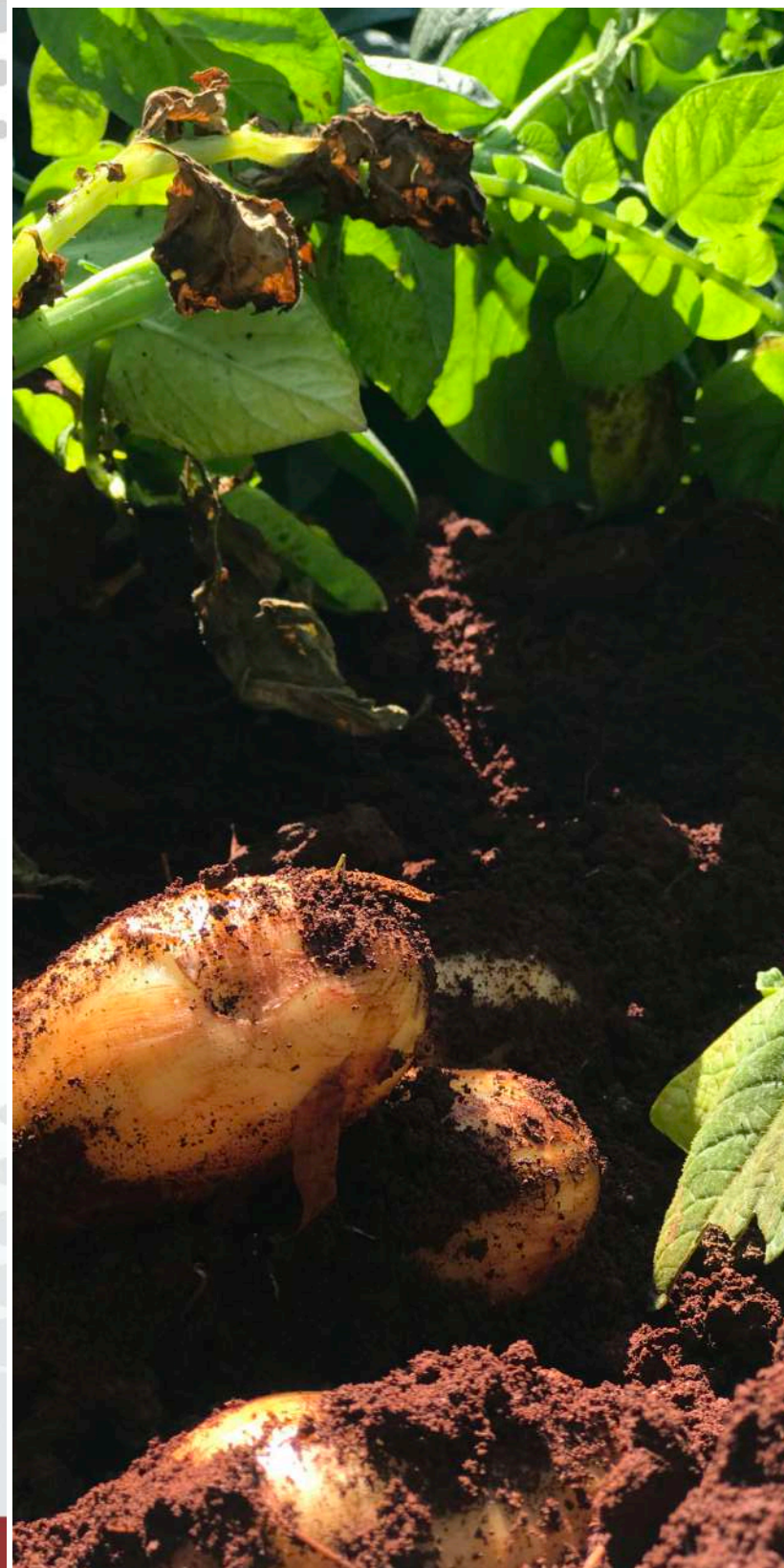
**FACTORY & SALES OFFICE**

**524 Mutare Road, Harare | [www.feedmix.co.zw](http://www.feedmix.co.zw)  
Call / Whatsapp - 0771 681 344 or 0771 844 222**

# Have You Had Heavy Rains, Hail, And Strong Winds?

**Boost Your Plants Recovery Post Stress Periods**

**By Damara Bio Agri**



Cloud cover, a plants brix levels, and its photosynthetic capabilities are tied together in a complex web of interaction. The aim of this article is to get to grips with understanding how a plants energy, ultimately their brix level, is impacted because of prolonged cloud cover, heavy rains, hail and strong winds, and how this influences the plants natural process of photosynthesis. We will then discuss how Plantsure, an organic plant derived product, available at Damara Bio-Agri can help to boost your plants recovery post stress periods.

**First and foremost, let's understand more about Brix;**

"The sugar levels in a plant are like a gauge of photosynthetic activity. They are also a gauge of the health of the plant; the **higher the sugar levels, the healthier the plant.**" Brix is the measurement of sugar levels, vitamins, minerals, proteins, and other solid content in plants and is measured using a refractometer. When a plant has a high brix level it is an indication that the plant has been grown in a healthy medium, with sufficient nutrients and water. The plant has the capacity to build essential oils to protect itself from pests and diseases functioning at an optimal level of photosynthesis, turning light into yield at its maximum capacity.

**Low Brix** (sugar) values in plants means poor nutrition and signal a weak plant. Weak plants attract pests and diseases. When a plant has deficiencies, it consists of simple sugars and incomplete proteins that are natural attractors of pests. This plant will tend to photosynthesise less, during which time the plant is not able to efficiently use the energy input from the sun to absorb carbon dioxide from the air, and water from the soil, to produce the necessary sugars and carbohydrates that coincide with a high yield. However, if you have a healthy plant with a high brix level, a pest, for instance, will not be attracted to the plant and will thus go elsewhere.

This is where the effect of cloud cover is most prominent on crops. If you think about it, Zimbabwean summers are characterised by hot sunny days only alleviated by the cool afternoon thunderstorms. Although we all wait in anticipation of rain, have you ever given thought to how those thunderstorms impact a plants energy level? Firstly, have a think about what constitutes a thunderstorm. The answer to that is clouds! Not only when a thunderstorm is building, but also after a thunderstorm, there tends to be an increase in cloud cover. This increase in cloud cover



can persist for hours if not days. Thus, if your crop is already failing to photosynthesise optimally, as a low brix level would highlight, because it has not had access to the correct soil nutrition, persistent cloud cover would only serve to disturb the process of photosynthesis even further. This will have a detrimental impact on the overall crop performance, where studies have predicted that this costs plants 7.5 to 40% of their yield, depending on the type of plant and temperature.

Compounding this issue is the fact that when a plant faces abiotic stressors such as heavy rains, hail or strong winds, as we typically experience in our summers, the sugar levels of that plant further decrease, ultimately meaning plant health decreases. When plant health decreases the plant becomes more susceptible to pests and diseases which can become rampant post stress periods. This is why boosting your plants recovery post stress periods is so important.

There’s only one way to boost your plants recovery = **Increase Brix Levels**

**So, how can we do this?**

Building a core foundation is always going to be the most important way to maintain a high energy and healthy plant. However, when we are faced with the challenge of increasing a plants photosynthetic rate post stress periods we’ve got a solution at Damara Bio-Agri called Plantsure. Plantsure is an organic product derived from natural plant

material, consisting of L- Amino Acids, Organic Acids and Phytohormones. Plantsure is a product that has been proven to increase Brix (sugar) levels in plants. With growth promoting auxins and cytokinins, resistance inducing organic acids and the purest form of amino acids that can be readily absorbed by the plant, Plantsure stimulates overall plant health and increases plant immunity.

Using a product like Plantsure to increase your plants photosynthetic rate and ultimately the Brix level of that plant will offer various benefits:

- Increased resistance to pests and disease
- Improves plants recovery post stress periods
- Increases general plant health
- Plants with a higher Brix level will not rot and mould as easily

**Readily available in 1L, 5L and 20L containers and suitable for use on all crops.**

Please note we also have refractometers available at Damara Bio-Agri that can be used to measure the Brix (sugar) levels of your crops on farm.

**If you would like to know more about Plantsure or Refractometers please get in touch with us at [sales@damarabioagri.com](mailto:sales@damarabioagri.com) or 08677005277.**

# Plantsure™

Have you had **Heavy Rains, Hail and Strong Winds?**

Boost your plants **RECOVERY** post stress periods.



There’s only **ONE** way to boost recovery = **INCREASE BRIX LEVELS**

**How does Plantsure help boost your plants recovery following abiotic stress?**

Plantsure is an organic product consisting of L-Amino Acids, Organic Acids and Phytohormones.

Plantsure is a product that has been proven to increase BRIX levels in plants. With growth promoting auxins & cytokinins, resistance inducing organic acids and the purest form of amino acids that can be readily absorbed by the plant, Plantsure stimulates overall plant health and increases plant immunity.

**Available in 1L, 5L and 20L containers.**



Supplied by Saiwit Holdings (Pvt) Ltd., T/A Damara Bio-Agri.  
Stand 583 Pomona Industrial Park, Borrowdale, Harare, Zimbabwe.  
Tel: +263 8677005277  
Email: [sales@damarabioagri.com](mailto:sales@damarabioagri.com)  
[www.damarabioagri.com](http://www.damarabioagri.com)



## BETTER INSURANCE STARTS HERE

Originally established over 25 years ago Hunt Adams & Associates is a registered and fully licensed broking agency that is Zimbabwean owned. Combined, our Hunt Adams staff have over 180 years of experience in the insurance industry.



### LICENSED

Registered and fully licensed broking agency



### ESTABLISHED

Established over 25 years ago



### RELIABLE

180 years in the insurance industry



## ARE YOUR MOST VALUABLE ASSETS COVERED?

- ✓ Agriculture & Livestock
- ✓ Motor
- ✓ Domestic and Household
- ✓ Property
- ✓ Medical and Travel

- ✓ Marine
- ✓ Liability
- ✓ Personal
- ✓ Engineering
- ✓ Bonds and Guarantees



Contact one of our friendly and professional brokers today for more information and a quote.



8 Fleetwood Road, Alex Park,  
Harare, Zimbabwe



08 6 7700 0719



[info@huntadams.co.zw](mailto:info@huntadams.co.zw)  
[www.huntadams.net](http://www.huntadams.net)





talk about reducing the fertiliser budget. Improving efficiency simply means we want to try to use less fertiliser and/or minimise the losses. Making fertiliser applications more efficient by stabilizing it, keeping it from leaching and volatilising. It is important to look at how efficient we are at delivering nutrients to the soil and most of all how much of the applied nutrients are being taken up by plants. If we look at nutrient use efficiencies of applied fertiliser a fraction of about 40-50%N, P 10-30%, K 40-50% that will be utilised by the plant therefore farmers are losing out money and yield from nutrients they are not utilising. Minimising nutrient leaching through humic and fulvic acids which bind nutrients improve the uptake by plants.

Food for thought: ultimately since farming is a business we have to ask ourselves at what cost are we obtaining our yield targets. One can get 6-7t/ha yield of wheat at a cost of \$600 using the standard 400kg basal and 400kg top dressing recommendation, then transport on top. At the end of the day it is about profit margins. Ronald Rusere is a Technical Agronomist and Consultant at Humuson Complex, for more information contact/WhatsApp 0774690553 or email [ronaldrusere@outlook.com](mailto:ronaldrusere@outlook.com)



# Tapping into Soil Microbiology to Reduce the Fertiliser Budget

By Ronald Rusere, a Technical Agronomist and Consultant

The increasing cost of inputs without the improvement in producer prices means profit margins will continue to dwindle, necessitating alternate means to optimising farm profitability. Sadly, farmers do not have control over producer prices and input prices however they have control of those inputs that they have to buy. This has led to discussions where farmers are looking for ways of farming where they can spend less money on inputs/costs but still maintain the same or similar yields. The key then lies in designing a model that improves efficiency and uses the least amount of fertiliser/ inputs as possible. The goal is to create a low input, high efficiency system where a farmer uses reduced amounts of highly efficient inputs.

Substituting with microbial biostimulants

We can substitute a fraction of applied fertiliser by incorporating nitrogen fixing, phosphate solubilising and potassium solubilising bacteria. The reduction in the use of fertiliser inputs by incorporation of plant growth promoting rhizobacteria can help to reduce nutrient applications by 25%-50%. These microbial biostimulants utilise different effectual mechanisms to increase the uptake of nutrients by crops. These mechanisms include nitrogen fixation, enzymes that improve nutrient availability such as phosphatases, secretion of organic acids that solubilise nutrients, increase of root surface improving access to water and nutrients. Under the conventional system of farming we've always put a heavy emphasis on soil chemistry both in terms of chemical intervention and nutrient management neglecting soil biology. With soil biology we are harnessing the things we get for 'free'.

The unfortunate part of applied nitrogen is that it is highly mobile in

soil, easily loss through leaching, volatilisation however since 78% of atmospheric gas is nitrogen, we can take advantage of the nitrogen cycle by tapping into microbes that fix nitrogen and supply a fraction of the nitrogen needs of the crop. Nitrogen fixing microbes can be a critical tool to use to reduce nitrogen fertiliser inputs. There's over 74000t of nitrogen over every hectare, we can access a large percentage of our nitrogen from the atmosphere. It's not just legumes that fix nitrogen all plants can fix nitrogen through their association with free living bacteria that does not have to form nodules but will live around the root system of the plant. Only 10-20% of applied phosphorus and 40% potassium is taken up by the plants in the year of application, 70-90% Phosphorus and 60% Potassium is immobilised or locked up in the soil phosphorus/ potassium bank. Introducing microbial biostimulants that are able to produce enzymes or organic acids that make locked up nutrients available to plants making available some of the total nutrient fractions is significant in providing nutrients to soil.

Improving nutrient use efficiency  
Maximising nutrient use efficiency is key when we



## TECHNICAL SERVICES (AFRICA)

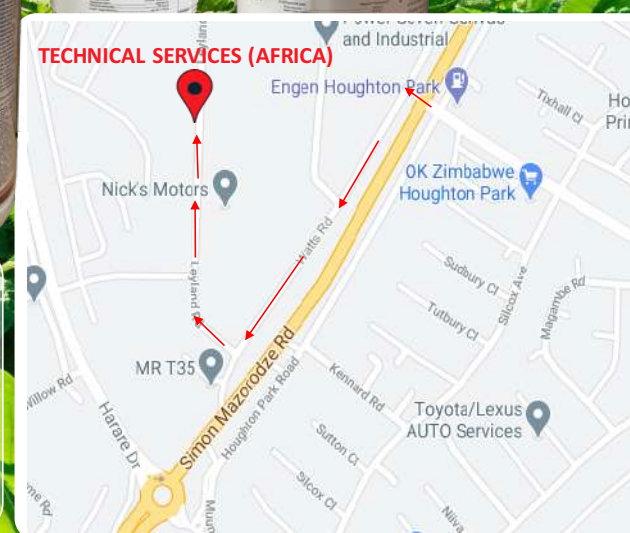
A DIVISION OF ACOL CHEMICAL HOLDINGS (PVT) LTD

**DISTRIBUTOR & SUPPLIER OF PREMIUM QUALITY HERBICIDES, FUNGICIDES, INSECTICIDES, NEMATICIDES, GROWTH REGULANTS, FUMIGANTS, FUMIGATION PLASTICS, SPARES & SEEDBED COVERS.**



TELEPHONE: 0867 700 7426  
SALES: 0733 422 347 & 0733 422 349  
MANAGEMENT & AGRONOMY:  
0712 605 651 –  
0772 483 952 –  
0784 307 294  
EMAIL: [tso@acolchem.co.zw](mailto:tso@acolchem.co.zw)

**TECHNICAL SERVICES (AFRICA)**  
670 Leyland Road,  
New Ardbennie,  
P.O Box W222, Waterfalls  
Harare  
Zimbabwe





# Sucker Management Advisory

By Kutsaga Research Station

Topping which is the removal of the terminal bud or inflorescence of the tobacco plant to inhibit flowering of the crop is an important procedure as it significantly increases the weight, size and uniformity of the tobacco leaf. However, the removal of the terminal bud, stimulates the growth and proliferation of suckers (axillary shoots) because hormones that inhibit sucker development are produced in the terminal bud, so removal of the terminal bud also removes apical dominance, thus inducing proliferation of suckers. If suckers are not removed, plants will develop multiple suckers. Therefore, sucker control

significantly increases crop yield, improves grade quality, increases reducing sugars, nitrogen content as well as nicotine content in tobacco cured-leaf. These properties augment flavor and quality of the golden leaf. Furthermore, sucker control reduces aphid and whitefly pest buildup on the crop as extra foliage for breeding will have been discarded.

Sucker control in tobacco can be done through manual hand-suckering or chemical control using suckercides. Currently, three suckercides (active ingredients) are available on market and these include N-Decanol, Flumetralin and Pelargonic acid. The number of applications approaches for acceptable chemical sucker control varies widely. Table 1 below gives applications rates for the various suckercides. Suckercides should be applied over the top of the stem and should reach every leaf axil of the plant but not the soil. Suckers larger than 2 cm will not be controlled chemically, therefore they should be removed manually. Growers must note that suckercides should not be applied when plants are wet from rain or dew and when they are badly wilted. If applied under such conditions the control period is likely to be less or may result in phytotoxicity. It is not recommended to apply suckercides when reaping has commenced, this is done in order to reduce residue accumulation on the cured leaf. Should there be any queries regarding the above, or if further information on a particular product is required, please feel free to contact Kutsaga Research Station's Crop Production & Molecular Technologies and Plant Health Services Divisions on telephone (0242) 2575 289-94 or toll-free, 0800 4511 or Email: kutsaga@kutsaga.co.zw or visit Kutsaga Research Station, Airport Ring Road, Harare

Suckercide (Active Ingredient)	Formulation	Amount applied/100L
<b>Contact Suckercides</b>		
N-Decanol 79EC	N-Decanol 79EC	4 Litres
	N-Decanol	4 Litres
	Thekanol	4 Litres
	Sucker-Tac	4 Litres
Pelargonic Acid	*Beloukha	0.75 Litres
#Flumetralin 125EC	Primal 125 EC	2.7 Litres
	Defeat 125EC	2.7 Litres
	Topper 12.5 EC	2.7 Litres
Flumetralin 150EC	Flumetralin 150 EC	2.25 Litres
	Flumex 150 EC	2.25 Litres
	FluPro 150 EC	2.25 Litres
Flumetralin 250EC	Prime+ 250 EC	1.35 Litres
<b>Locally systemic and contact suckercides</b>		
Flumetralin +N- Decanol	Flumetralin Duo	3 Litres

Table 1. Registered Suckercides and Distributors for Use in Tobacco Production.

\*Beloukha is applied in combination with a systemic suckercide flumetralin.  
# Flumetralin is persistent in soil and extra care must be taken to minimise soil residue when using this product.



## For Better Plant And Soil Performance

At Viagrow, we offer African farmers uniquely formulated, **nutrient enhanced Reacted Carbon Technology** products designed to **maximize crop yield** **nurture soil sustaina** . Our solutions are the product of decades of research and development by **at Nutrien Ag Solutions** provider of crop inputs and services This world class patented agronomical technology is now available to Zimbabwe and distributed exclusively by Grow Agriculture.

### Engineered For Superior Performance



#### Agronomic Benefits

- Increases root mass due to increased nutrient uptake.
- Decreases the amount of root burn from fertilizer salts.
- Increases drought tolerance by increasing the water holding capacity and potassium availability.
- Increases the Cation Exchange Capacity (CEC) in the application zone.
- Supports microbial activity by providing a food source and a place for those microbes t
- Buffers salts that are in the soil solution.
- Buffers the negative effects of soil pH.
- Positively impacts Nutrient Use Efficiency.

Over the past 5 years, Viagrow's unique nutrient enhanced solutions, ha significantly increased farmers across Africa, by as much as 80% hen correctly applied obacco schemes now rely on Viagrow to enhance the yield and quality of their

### Products Used in Tobacco Production Include:

Viagrow Power

3) Viagrow Power Evol  
4) Viagrow Power

5) Viagrow Micronutrients



Officially Distributed in Zimbabwe By:

**Grow Agriculture (Pvt) Limited**  
No. 91 Coventry Road, Workington, Harare, Zimbabwe  
Tel:+263-(0)242-301627 | Mob:+263-(0)772-235-538 | [www.viagrow.africa](http://www.viagrow.africa)





# Smallholder Pig Production Constraints

By Mukunza Peter T, Livestock Consultant

The importance of smallholder pig producers in SADC countries has been greatly recognised in recent years as a way of boosting Africa’s agricultural economies, following high and increasing demands for meat amidst a booming population in the country (ZimStat, 2022). Therefore, Zimbabwe’s smallholder system has the potential to grow and become the mainstream of the livestock sector’s performance indicator (FAO, 2023), following the introduction of the ZAGP program under the Going for Growth theme. Additionally, changing livestock production trends towards landless monogastric species such as poultry and pig production, because of better production efficiency per unit area of land, has paved a way for integrating pig production which is becoming increasingly important economic activity (FAO 2009). The multiple uses of livestock as a source of income, financial security, and savings, as a bartering tool, and for their role in traditional ceremonies have made them a vital commodity in many developing countries. Therefore, pig farming is a significant source of animal protein and a quick source of income for smallholder farmers, particularly during droughts.

### Glitches In Pig Management

As a fact, it is much attainable to have a higher performing pig herd attaining good results if only pig production is done accordingly. What does it mean, “doing pig production accordingly”, it defines correct pig production, comprised of a number of factors inclusive of cost reduction and at most the management practices in pig production. Being exposed to one of the biggest commercial pig producing company, “Triple C Pigs”, has been a great opportunity as it allowed me to have a bigger picture on the effective production of pigs. I even saw some production factors that I have never seen and I would like to believe that these are lacking “Nitty Gritties”, in the smallholder sector. For example, you know a 2.5 litter index is attainable with the sow even producing

a litter of 18-20 viable piglets of birth weight above a KG? The fundamental knowledge of the management practices of pig production systems in smallholder farmers, which is the key to strengthening the industry, is sorely lacking and improvements are urgently required. Traditional production systems and practices, which are characterised by small herds, poor breeds, poor feeding systems, low levels of bio-security, poor productivity, and low market takes, dominate pig production in the majority of areas of Zimbabwe. This has serious implications for the public health as well as the economic viability of smallholder farmers and the general populace.

### Challenges In Smallholder Pig Production

Over the years, improving smallholder farmers’ access to markets has become an essential element in strategies to promote rural development and poverty reduction. However, many of these smallholder pig producers face constraints such as lack of access to market information, skills, and technologies in the supply chain, poor infrastructure barring access to urban markets, weak institutional arrangements, and limited capacity to produce high-quality products required on the formal markets. As mentioned by Nyoni 2012, pig slaughters declined by 5% in the year 2020 responding to several challenges, the inclusion of inferior breeds, and financial constraints in small-scale pig producers. The decline was an obvious clarification portraying that the small-scale pig producers are facing management challenges, ending up complicating the potential to produce adequately for maximised profits. A case study in the Nyabane area shows that smallholder farmers are failing to intensify their piggery projects (Chigede, 2022), due to several reasons such as limited resources, poor management particularly feeding as it contributes immensely to production costs, and health issues. The high nutrient requirements and the need for

intensive management systems for imported genotypes make them unsuitable for resource-poor rural farmers. This led to the introduction of the ZAGP VALUE program aimed to improve the capacity of smallholder farmers especially women and youths to improve their goat and pig breeds, production and productivity, access to viable markets, and organizational efficiency. The Zimbabwean feed industry is sorely lacking in pig diets as most of the feed manufacturing companies tend to generalize the boar and sow meal as the gilt and sow diet despite the physiological state of the sow. The continuous improvement in animal genetics due to changes in animal breeding goals calls for animal nutrition recommendations and continuous assessment to meet the genetic needs and exhibit the potential within genetics. Therefore, investigating factors responsible for poor pig production will assist in ensuring sustainable pig management practices that are beneficial to small-scale farmers.

For good reasons, breed’s performance within the existing Small Holder Pig Farmers is however affected by the existing management practices which are feeding, housing and biosecurity. It is the combination of genetics, nutrition, health, environment and management that influences quantitative traits that are of economic importance such as litter size, growth rates and carcass quality. Following the review, a number of management practices have to be applied to compliment the good work performed by researchers on different topics. Proper management



in different sectors including farrowing, dry sow, weaner, grower and finisher should be implemented.

### Back Links

- ZiMunda Magazine issue 14 page 14 – Celebrating pigs in Zimbabwe by James Bruce, Red Dane Piggery.
- ZiMunda Magazine issue 13 page 42 – Winter care in piglets by Yolanda Dehwe, Piggery Section Supervisor.
- ZiMunda Magazine issue 11 page 16 – Care and management of piglets from birth till weaning by Elizabeth Makura, Fivet Animal Health.





# Zimbabwe is to Host the Next Biennial African Plant Breeders Association's (APBA) Conference in 2025 at Victoria Falls.

The Zimbabwe Plant Breeders Association (ZPBA) won the bid to host the next biennial African Plant Breeders Association's (APBA) Conference, beating the Nigerian Plant Breeders Association (NPBA). The conference, marking the fourth, after the first in Ghana in 2019, Rwanda in 2021, and Morocco in 2023, will be held in 2025 at the Victoria Falls, Zimbabwe. The APBA organises biennial conferences to discuss plant breeding advancements in Africa and globally, fostering networking opportunities among various sectors, including the public, private industry, and organizations like CGIAR.

The conference began with an opening address by H.E. Mohamed Sadiki, Morocco's Minister of Agriculture, Maritime Fisheries, Rural Development, and Water and Forests. Dr. Godfrey Bahigwa, from the Africa Union Commission presided over the opening ceremony, while Prof. Hicham El Habti, President of the Mohammed VI Polytechnic University (UM6P), and Prof. Eric Y. Danquah, President of the APBA and Director, West Africa Centre for Crop Improvement (WACCI), University of Ghana, welcomed

to the conference attendees. During the conference, Prof. Julia Sibiya from the University of KwaZulu Natal, South Africa, was elected as the President of the APBA, and Mr. Dean Muungani from the International Institute of Tropical Agriculture (IITA) in Nigeria became the General Secretary, in an election presided over by Dr. Rufaro Madakadze Senior Program Officer, AGRA, Nairobi, Kenya. Additionally, two great scientists from Zimbabwe, Prof. Pangirayi Benard Tongoona, Associate Director, West Africa Centre for Crop Improvement (WACCI), University of Ghana and Dr Madakadze received awards. Prof. Tongoona received an award for his outstanding contribution to training plant breeders in Africa, leadership, and research. Dr. Madakadze was also honored for her significant role in establishing the APBA and her support for plant breeding training. The conference was attended by more than 300 scientists, from 51 countries, including 16 attendees from Zimbabwean. The conference was mostly in-person, featuring a hybrid session for the opening ceremony and one panel discussion. The conference featured seven keynote addresses, with



Dr Frank Magama, presenting the bid to host the APBA conference for 2025

Magama, CEO, Tobacco Research Board, and ZPBA President based in Zimbabwe, chaired a session on Advances in Genetic Innovation and Technology. Prof. Pangirayi B. Tongoona, chaired a session on Capacity Building in Plant Breeding and also chaired the fifth keynote address on Capacity Building and Education in Crop Improvement. In that session, Dr. Lennin Musundire from the International Maize and Wheat Improvement Center (CIMMYT) based in Nairobi, Kenya presented on the costing of breeding programs: CGIAR-NARES-Breeding Crop Network. Dr. Vimbayi Grace Petrova Chimonyo, a Cropping Systems Agronomist at CIMMYT, presented two topics on cropping systems for resilience to climate change, in a plenary session and designing dual-purpose sorghum ideotypes for grain and biomass yield stability. Dr. Oswell Ndoro, Senior Manager, R&D, Afriseed, Zambia and Prof. Julia Sibiya, were panelists in a session discussing re-designing crop varieties to address the challenges posed by climate change and food security. Dr. Godwill Makunde from

the International Potato Center (CIP), based in Maputo, Mozambique presented on advances in the breeding of sweetpotato in Africa. Dr. Rufaro Madakadze chaired a high-level panel discussion on Training Modern Plant Breeders in Africa, with Prof John Derera as one of the panelists. Ms. Ronica Mukaro, Maize Breeder at the Crop Breeding Institute and a student at the University of KwaZulu-Natal, South Africa presented on the genetic potential of tropically adapted exotic maize in sub-tropical breeding programs. Dr. Claid Mujaju, Director, Research Services Department gave a keynote address on Seed Systems and Germplasm Conservation. Prior to the conference, Prof Tongoona chaired the Scientific Committee of the APBA that reviewed and selected abstracts for both oral and poster presentations. Prof Julia Sibiya, Dr. Rufaro Madakadze, Prof John Derera and Dean Muungani were part of the Executive committee and various committees that organized the conference.

two chaired and delivered by Zimbabwean speakers. There were also four high-level panel discussions, which involved five Zimbabweans as chairs or panelists. A total of 120 oral presentations and more than 250 posters were given, including six by presenters from Zimbabwe. The conference also had two plenary sessions, one of which was presented by Dr. Vimbayi Grace Petrova Chimonyo. On the fourth day of the event, attendees had the opportunity to take an optional visit to the newly established PHENO-MA Phenotyping Platform at UM6P. Zimbabwean participants contributed to various activities during the conference, including panel discussions, plenary sessions, oral and poster presentations. Prof. John Derera, Senior Director, Plant Breeding and Pre-breeding, CGIAR, based in Nigeria, chaired a session focused on the CGIAR Genetic Innovation Science Group, with Dr. Sonja Vermeulen, Managing Director of Genetic Innovation, CGIAR, introducing CGIAR's Genetic Innovation Science Group and the Breeding Resources Initiative. Dr. Frank



Kneeling (Left to right) Dr Oswell Ndoro, Dr Sydney Mavengahama, Dr Frank Magama. Standing (Left to right) Prof John Derera, Dr Ronica Mukaro, Dr Lenin Musundire, Mr Dean Muungani, Dr Godfrey Chigeza, Dr. R. Madakadze, Prof. Pangirayi Tongoona, Prof Julia Sibiya, Prof Kingstone Mashingaidze, Dr Claid Mujaju.



# Linchpins for Increasing Productivity

By Wendy Madzura, Head of Agronomy Seed Co Ltd

**In effective crop production, there are a lot of reasons for low yields but only two reasons for high yields:**

- Selecting the best germ-plasm or seed for a given crop and
  - Employing Good Agronomic Practices (GAP's)
- Increasing crop productivity is best achieved by understanding the following factors:

## Selecting the Right Seed

Selecting the right seed is hinged upon a farmer's desired outcome and knowledge of the end use of the produce. Some farmers may want to produce maize for silage, green mealie or grain and variety choice should be guided as such. The choice of crop or variety to grow should always be guided by market analysis and seasonal suitability. Crop and variety choice is the cornerstone to profitable farming hence farmers should always seek advice from agronomists informed choices.

Farmers are implored on to embrace the "climate smart", modern innovative seed technologies which are aimed at mitigating against the effects of climate change. Climate smart varieties have drought escape and drought tolerance mechanisms coupled with defensive agronomic traits such as tolerance to lodging, a vigorous root system and good tip at maturity. Drought tolerant crops that include Sorghum Millet and Sunflower are highly encouraged especially in region 4 and 5 to mitigate the effects of climate change. Climatic factors such as humidity, cloud cover, wind, altitude, air temperature and the rainfall pattern are important elements in farming because they act as the enablers for the crop to grow. The altitude (height above sea level) is a measure used to describe the angle of inclination of an area and this has a bearing on the rate of growth of crops. Crops established in areas of high altitude tend to take a longer time to reach physiological maturity due to the cool weather conditions associated with the low heat units (Growing Degree Days) while crops established in areas of low altitude tend to grow much faster because of the higher heat units experienced. The duration of growth therefore affects a farmer's cropping plans and level of productivity as it affects the days to maturity. The rainfall amount and distribution is an important yield determinant especially under rain fed agriculture. The 2023 farming seasonal forecast has been said to be characterised by the El Nino phenomenon which results in drought conditions in the Southern African countries including Zimbabwe as such farmers should always align their cropping plans with the nature of the season to enable informed crop and variety choices to be made. The rainfall distribution is best explained by the different Agro-ecological regions in Zimbabwe. In 2020, Zimbabwe's Agro-ecological regions were re-classified based on the



climate change induced changes. The Regions have been broken down into Seven Sub-classes. Region 1, Region 2A, Region 2B, Region 3, Region 4, Region 5 and Region 5B. Knowledge of the agro-ecological regions from region 1 which is characterised by high rainfall (>1000mm) to region 5 which receives the lowest rainfall (<650mm) enables farmers to understand the average rainfall received in a given season and relate it to the seasonal forecast that is issued by the Meteorological services department. With this information, farmers who practice rain fed Agriculture can make informed decisions on variety selection. In an El Nino predicted season, EVERY DROP OF WATER COUNTS hence farmers are implored on to embrace water harvesting and storage practices that include tied ridges, pot holing and water reservoirs especially if crop production is 100% rain fed.

## Correct Planting

During planting farmers are encouraged to use the recommended seed rates and spacing to achieve the



optimum plant population for a given crop and variety. This is because yield is a function of two things, yield per plant and yield per unit area. For maize farmers can use 25kg's of seed to plant 1hectare (2.5acres) or seed packs that come with specified number of kernels (20 000 kernels or 50 000 kernels). The recommended inter-row spacing for maize is 75cm to 90cm while the in-row spacing is 18 to 25cm. Farmers should aim to achieve a plant population of 50 000 to 60 000 plants per hectare in high potential areas or under irrigation while low rainfall potential areas are recommended to achieve a plant population of 36000 to 44000 plants per hectare. In a drought inclined season, farmers should reduce plant populations per unit area to enable effective crop growth with reduced competition for resources especially moisture. If germination is poor gap filling or re planting should be done in the 1st two weeks after crop emergence. Planting should be done with the 1st effective rains (>35mm of rain received in 2 to 3 days).

## The Soil Factor

The soil is the main growing media in which crops grow and as such, is a key ingredient in increasing crop productivity. Soil pH, fertility status and structure determine the crop's ability to utilise available nutrients to achieve an intended yield level. The pH level describes the soils acidity or alkalinity on a calcium chloride scale or potassium chloride scale. This unit of measure has a bearing on the availability of crop nutrients to the crop and therefore affects fertiliser use efficiency. In Zimbabwe over 70% of the soils are acidic and as a result farmers are not reaping the full benefits of organic or inorganic fertiliser applications because acidic soils reduce availability of macro and micro-nutrients for crop growth thereby reducing the fertiliser use efficiency. In some cases, only 20 to 30 % of the total fertiliser applied is utilised by the crop resulting in low yields and reduced crop productivity. The best way to address soil pH and understand the nutrient requirements of crops is through SOIL ANALYSIS. Basal fertiliser should be applied before or at planting in the form of compounds or specialised blends depending on the crop. For maize farmers can use compound D with a Nitrogen: Phosphorous: Potassium (N:

P: K) ratio of 7:14:7 or blends (6:23:23 or 14:28:14. On top dressing fertilisers (AN or Urea) should be applied at the vegetative stage of a crop to promote vigorous growth which ultimately gives high yields. Split application is encouraged for top dressing fertilisers to reduce leaching and volatilization of AN and Urea respectively. The soil structure affects root growth, water infiltration and beneficial microbial activity thereby impacting on crop production. Soils with poor drainage (plough pan or heavy clays) tend to reduce water infiltration and promote run-off. Improving the soil structure is one way of ensuring that we preserve the abundant growing media in a way that allows for effective crop growth without compromising the environment for future generations (sustainable agriculture). The adoption of conservation agriculture which is hinged upon three pillars i) minimum soil disturbance ii) Permanent ground cover iii) rotations is one way in which the soil structure and water can be conserved, Farmers are also encouraged to use manure (organic matter) that is fully decomposed to avoid the introduction of insect pests and diseases. The choice of land preparation should aim to achieve a fine tilth which will ensure good seed to soil contact and effective germination resulting in a healthy crop stand resulting in increased productivity. In addition to this water harvesting techniques such as pot holing, tied ridges and mulching are greatly encouraged to mitigate against the unforeseen weather vagaries of climate change which include prolonged dry spells and droughts.

## Insects, Pests and Diseases

Biotic factors are amongst the major yield reducing factors therefore farmers should always be on high alert. Before establishing any crop farmers should understand the problematic insects, pests and diseases that might affect the crop and prepare for them. Some varieties may be tolerant or resistant to problematic diseases like Grey Leaf Spot (GLS) and Maize Streak Virus (MSV) in maize, leaf rust in soya bean and selection of such varieties may have a cost saving effect thereby increasing profitability in farming. However regular scouting will enable farmers to apply preventative or curative/systemic fungicides to manage



diseases when infestation occurs. Effective insect pest control depends on the effective identification and timeous control of the insect pest. In maize production problematic insect pests include Fall army worm, African army worm, stalk borer chillo worm with Fall Army Worm being the most devastating one. Regular scouting is encouraged to determine insect pest pressure before economic threshold levels are reached for effective control. Effective control is achieved through the rotation of insecticides with different active ingredients and modes of action. It also reduces over application of agrochemicals which can promote the development of insect resistance.

### Weed Control

It is also pivotal for farmers to effectively manage weeds using an integrated approach of cultural/ mechanical and chemical methods of weed control. Effective chemical/ herbicide use is hinged on the correct knowledge of the weed spectrum, time of application (pre-emergence versus post-emergence), correct application rates and the rotation plan. Weeds compete with crops for nutrients, water and growing space resulting in low yields. Effective weed control for the 1st 10 to 12 weeks after crop emergence is encouraged however it is best to maintain a weed free field until harvesting to reduce admixtures that may affect the quality of the crop at harvesting.

As the 2023-24 farming season progresses, farmers should never under estimate the secret ingredient in farming (a farmers' foot print) in the field through regular scouting in a systematic way. Timeliness of farm operations such

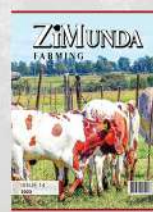
as planting dates (irrigated or dryland crops) and fertiliser application type, time and rates (basal versus top dressing) integrated insect pest and disease management are all hinged on the farmer's level of commitment to the farming enterprise. Farmers should integrate the above factors to obtain optimum yield levels for increased PRODUCTIVITY and PROFITABILITY. Farming is a business, it starts with the right seed coupled with Good Agronomic Practices (GAP's)



## ZiMUNDA FARMING

### ZIMUNDA FARMING MARKETING PACKAGE

Advertise In Our Bi-monthly Magazine



<b>FULL PAGE</b> 210 X 297mm		<b>HALF PAGE</b> 148 X 210mm	
		<b>QUARTER PAGE</b> 105 X 148mm	<b>BUSINESS CARD</b>

#### FOR MORE INFORMATION CONTACT

E: [support@zimunda.co.zw](mailto:support@zimunda.co.zw) | E: [editor@zimunda.co.zw](mailto:editor@zimunda.co.zw)  
T: 0242-782-720