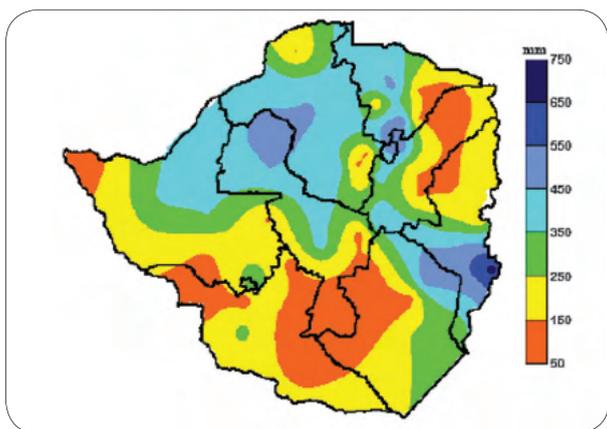


Pfumvudza/Intwasa



... UNPACKING THE RE-MODELLED INPUTS DISTRIBUTION MODALITIES



New format for 5 seasonal rainfall fore



When passion reproduced a herd of rabbits 12



Agronomic practices for sustainable production 13

Pfumvudza/Intwasa:

Unpacking the re-modelled inputs distribution modalities



Nester Gumbo

THE Presidential Input Programme is targeting 3, 5 million farmers in communal, A1, small-scale commercial farming (SSCF), old resettlement (OR) and peri-urban farming sectors for cereals, oilseeds, and legumes for the 2022/23 cropping season.

The programme will support 5 Pfumvudza/Intwasa plots (39m x 16 m) per farming household with an agro-ecological region-specific crop input package for maize, sorghum, pearl millet, soya beans, sunflower, groundnuts, dry beans, African peas and vegetables. The package will also include water retention enhancers, herbicides package for 3 plots as well as fall army-worm remedy.

Input distribution under Pfumvudza will be according to the agro-ecological region to maximise performance of the programme given

a high possibility of erratic rains.

Farmers in regions I and II will get:

- 3 mandatory maize plots,
- 2 optional plots comprising of sunflower, sorghum, pearl millet, groundnuts, African peas and sugar beans

Farmers in region III will get:

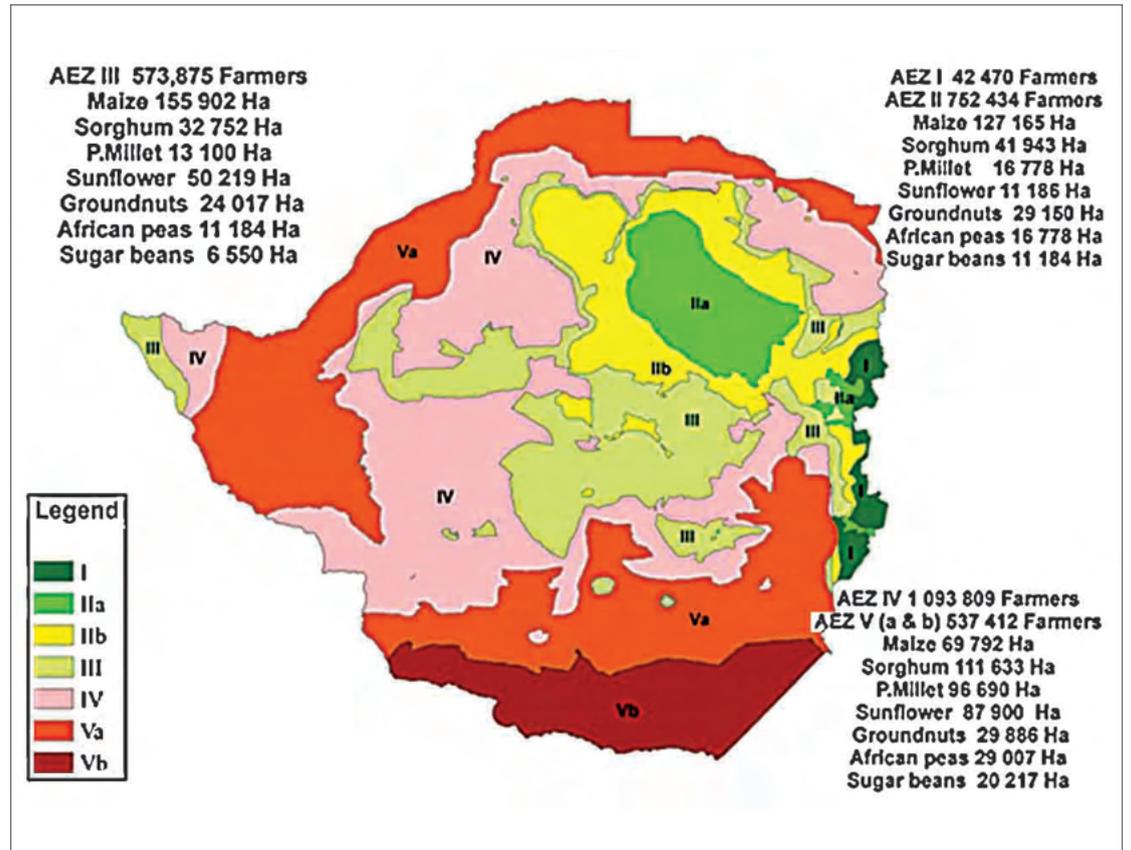
- 2 mandatory maize plots and sorghum or sunflower plot
- 3 optional plots comprising of sunflower, sorghum, pearl millet, groundnuts, African peas and sugar beans

Farmers in region IV and V will get:

- 1 mandatory sorghum plot, 1 millet plot and 1 sunflower plot
- Two optional plots comprising maize, African peas, ground nuts, sorghum, millet.

The Government has deliberately introduced distribution of inputs according to the farmers agro-ecological region as a way of ensuring food security and nutrition for all citizens. In the past, Government programmes had limited success in meeting set goal due to minimum crop yields produced by farmers across the country.

● Continued on Page 3



Ministry of Lands, Agriculture, Fisheries, Water and Rural Development
Agricultural and Rural Development Advisory Services (ARDAS)



Mulching under Pfumvudza/Intwasa

Extension message to Farmers

- Mulching is one of the principles of Pfumvudza/Intwasa which farmers are being encouraged to gather and collect enough for the 5 Pfumvudza/Intwasa plots.
- Best time to collect mulching material is soon after harvesting (April/May/June) before high incidences of veld fires.
- After mulch collection, ensure fire guard around the mulching material, either heaped or spread in the fields.
- Plastic mulch is much expensive under Pfumvudza compared to other types of materials, hence can be used on smaller areas especially for backyard farmers.
- Live mulch is recommended in intercropping, where the minor crop should be of spreading type and the main crop being tall statured. The full cover by the minor crop will give full benefits of mulching.



Benefits of Mulching

- ✓ Conserves soil moisture by fulfilling the 4 standard principles of moisture conservation
- ✓ Slow the movement of water on the surface thus increasing water infiltration in the soil – reducing run off and soil erosion.
- ✓ Spread the water on the soil surface
- ✓ Add organic matter to the soil thus increasing microbial activity, hence increased soil fertility.
- ✓ Regulate temperature fluctuations by absorbing heat during the day and radiating it at night.
- ✓ Smother weed germination, growth and development since no light penetrates into the soil surface.
- ✓ Reduce crop leaves contact with the soil thus reducing soil borne diseases.



www.moa.gov.zw

For more information, visit your nearest Agritex Office



Unpacking the re-modelled inputs distribution modalities

Continued from Page 2

According to the crop surveys conducted, farmers in low rainfall areas given inputs such as maize, sugar bean and soya bean performed dismally in terms of yields.

This drove the Government to adopt the distribution strategy based on agro-ecological regions in order to increase production and productivity, which lead to higher yields that secure food nutrition and security for the nation.

It is envisaged that through this strategy, where farmers in low rainfall areas will be given drought tolerant crops such as sorghum, finger millet, round nuts and sunflower for optimum yields.

Furthermore, farmers in high rainfall areas will focus on producing crops, which perform well under high rainfall conditions such as soya bean, sugar bean and maize.

However, it was noted that most people prefer maize crop for cooking the staple food sadza/isithwala to small grains.

According to the strategy, farmers will realise great harvests enough for household consumption with surplus for sale.

The excess produce will then be sold, and proceeds used to purchase preferred grain across the nation. The Government will avail transport to facilitate movement of grain from

All regions to grow maize



Several households across Zimbabwe have received Pfumbvudza/Intwasa inputs

areas of low demand to areas of high demand.

Opportunities for value addition and creation of new markets for products such as mahewu, a favourite beverage for many people.

erage for many people.

In addition, there will also be production of animal feed such as soya seed cakes from simple processing of sorghum, soya bean and other crops.

The development of new rural industries will ensure improved incomes and creation of employment towards attainment of National Development Strategy 1 (NDS1) and

Vision 2030.

The Government is encouraging farmers to receive the inputs distributed according to the agro-ecological regions, as these ensure their household and nation food security. In addition to household support the programme will also facilitate the Zunde raMambo/Isiphala seNkosi scheme, which will support 10 plots for the chiefs, 7 plots for headmen and 5 plots each for village heads.

The distribution of Presidential Climate-proofed Inputs Scheme will be conducted by local distribution committees.

The distribution committees will comprise locally selected members such as chiefs/headmen, village heads, Agritex officers, a local school head, party representative, SMEs ward coordinator, youth coordinator, and security sector representative as guided by the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development.

Grain Marketing Board (GMB) supply chain managers will superintend over the input distribution process in their catchment including receiving inputs at GMB depots and reconciling distribution of inputs.

Nester Gumbo is the Acting deputy director Department of Agritex



Ministry of Lands, Agriculture, Fisheries, Water and Rural Development
Agricultural and Rural Development Advisory Services (ARDAS)

Wheat Harvesting Tips

Harvesting is done when:

- ✓ The moisture content is between 14%-20%
- ✓ Wheat is fully ripe and has dried to a golden yellow colour (Yellowing of spikelets)
- ✓ Moisture content of the wheat grain is about 15%
- ✓ Wheat grain is in hard dough stage
- ✓ There is no more visible green in the wheat
- ✓ The farmer can break the seed-head off a plant and 'rubs it out' between his hands. When the grains of wheat are released and he can then bite them — if they are hard, the crop is ready to go.

Below 14% moisture:
 Cutter bar losses can increase.
 Test weights may decline each time the crop gets wet from dew or rain.
 Lodging may increase.
 Weeds may grow tall enough to interfere with harvester.



Above 20% moisture:
 Harvest damage to the kernels is more likely.
 Grain can be harder to store.
 Test weights can be lower.



AGRICULTURE JOURNAL

Editor's Note



It is my hope that I find you traversing the terrain from the 2021/22 season to the fast approaching 2022/23 cropping term well.

This transition from one season to another will play a key role in deciding how you fare in the new season with proper planning of activities.

For now, the weather people have given you the assurance that we all needed — there will be normal to above normal rains though at different segments of the season depending on where you are situated in the country's various farming regions.

The Government too, has listened to what your agro-ecological regions' soil and climatic conditions require in terms of crop choices and will be giving input packages that match those regional requirements.

Those situated in the country's arid regions will be getting packages with more bias towards drought tolerant crops while those in high rainfall locations will get more of crops like maize.

One common thing is that all farmers will get all the crops on offer but in different quantities depending on their geographical location.

Of course everybody needs the staple crop — maize, for its various uses including domestic consumption, hence the Government's decision to make sure it is included in all packages.

The decision is meant to climate-proof your operations so that when one crop fails, you can count on the chance for another to pull through.

It is crucial for you to be honest with yourselves and make sure you put the inputs to good use so that the results recorded at the end of the season will give a true reflection of what should happen in a season that would have been forecast to have normal to above normal rains.

Let's talk a bit about how you can handle your financial matters this season.

This is where you need to tread carefully when you do your planning lest you fail to produce productively despite receiving governmental support. You also need to grow your own free crops using your own funds so that you broaden your income base.

You must be ready to seek advice from people with the capacity to handle and deploy finances productively and make your decisions based on accurate financial data.

Your successful season starts with the right choices of activities and advisors. You must choose the right ones and try as much as possible to aggressively manage your expenses throughout the season.

Set clear budget objectives to serve as beacons that will inform the direction your forward march will take.

Wish you successful preparations for the new season!

Obert Chifamba



Development of Pfumbvudza/Intwasa was motivated by the need to climate proof crop production against adverse impacts of climate change

Pfumvudza principles key to climate change adaptation



Blessing Mudaniso

Training and Information Services Climate change is one of the greatest challenges facing the world's environment, society and economy today in crop production with negative repercussions, which include worsening droughts and crop failures.

Realising that the impacts of climate variability and climate change must be addressed in all crop development activities, Zimbabwe has included climate proofing strategies.

The development of the present farming concept was motivated by the need to climate proof crop production against adverse impacts of climate change through the introduction of sustainable and economical viable adaptation opportunities.

This concept is called Pfumvudza. This concept, which is designed to meet cereal needs for an average household of six members over one year, applies conservation agriculture (CA) principles and provides families with a fresh new start, hence the name Pfumvudza.

All the CA principles are applied "on time, at standard, without wastage," on a plot measuring 39m x 16m. Pfumvudza/Intwasa is a concept that is aimed at climate proofing agriculture by adopting conservation farming techniques and involves the utilisation of small pieces of land and applying the correct agronomic practices for higher returns (yield).

The approach can be used in marginal areas and still give high yields. The impact of climate change in agricultural systems is undoubtable. In addition to the good rainfall in the 2020/21 season, the practice of climate proofed technologies (Pfumvudza/ Intwasa) significantly contributed to increased yields.

To counter climate change, farmers have to adopt new farming systems to attain a cost effective and sustainable crop production.

Pfumvudza as one of the climate proofing concept, it is based on a combination of three main principles: (1) minimum soil disturbance, (2) perma-

nent soil cover through crop residues or cover crops, and (3) crop species diversification for achieving high productivity. Pfumvudza is an approach to farming that is based on key principles of conservation farming.

To achieve high yields, all processes must be done on intended period, to a high standard, without depleting resources. Using the Pfumvudza input pack it is possible to feed a family for a year from a minimum investment.

The objective of the Government together with the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development is to climate proof the agricultural production of smallholder farmers (80 percent of farmers in Zimbabwe) and ensure food self-sufficiency for the nation. The benefit of Pfumvudza farming system is that it is much easier to maintain a smaller plot at high standards than a bigger one. Hence, if small-scale farmers can focus their efforts on small plots they would benefit from better management and increase chances of better yields.

In times of drought, because the plots are small and manageable, farmers can water their plots and reduce the effects of moisture stress. Cultivating small plots will also reduce the amount of mulch required. Pfumvudza has been endorsed as a way to reduce soil erosion and soil fertility degradation.

The expertise of Pfumvudza provide opportunities to reduce the cost of production, save water and nutrients, increase yields, improve efficient use of resources, and benefit the environment. It enhances biodiversity and natural biological processes above and below the ground surface, which contribute to increased water and nutrient use efficiency and to improved and sustained crop production.

Pfumvudza has since reduced the chances of failure through the improvement of crop production thereby increasing yields and ensuring food security. A stark reality in smallholder farming communities reliant on cli-

mate-sensitive rain fed agriculture has been detected and a need for climate-proofing essential crop varieties has risen.

In the 2022/23 cropping season the deployment of high yielding varieties according to agro-ecological zones will be introduced as different crops adapt differently to different climatic conditions. These crops include maize, sorghum, soya bean, pearl millet, sunflower, groundnuts, African peas and vegetables. Each agro-ecological zone has to grow crops, which are region specific in terms of rainfall, temperature and soil type.

This is important to safeguard food and nutrition against climate change and to improve smallholder farmers' resilience to climate variability. Smallholder farming systems have been recognised as highly vulnerable to climate change because they are highly dependent on agriculture and livestock for their livelihoods.

In Zimbabwe, some farmers are vulnerable due to their marginal location, low levels of technology and lack of other essential farming resources. Farmers observe high frequency and severe drought, excessive precipitation, drying of rivers, dams and wells and changes in timing and pattern of seasons as evidence of climate change, and indicated that prolonged wet, hot, and dry weather conditions resulting in crop damage, death of livestock, soil erosion, bush fires, poor plant germination, pests, lower incomes, and deterioration of infrastructure.

Farmers must, therefore, adapt cropping practices that help mitigate against the vagaries of climate change and variability, as well as conserve soil and water. Thus, the promotion of climate-proofed Pfumvudza programme is a noble idea on the part of the Zimbabwean Government.

However, there is a need to ensure that, coupled with the enhanced production as a result of good management practices under Pfumvudza, the varietal choices are correct. This ensures nutritional security at the household level.

● Blessing Mudaniso is the acting deputy director Training and Information Services- Lands, Agriculture, Fisheries, Water and Rural Development Ministry

AGRICULTURE JOURNAL

EDITORIAL TEAM

Editor: Obert Chifamba

E-mail: obert.chifamba@zimpapers.co.zw

Phone: 0772 886 986

Agricultural Specialist Writer: Edgar Vhera

E-mail: edgar.vhera@zimpapers.co.zw

Phone: 0774 844 050

Reporter: Sharon Shayanewako

E-mail: sharon.shayanewako@zimpapers.co.zw

Phone: 0781 639 512

Reporter: Elton Manguwo

E-mail: elton.manguwo@zimpapers.co.zw

Phone: 0785 335 676

Design, Layout & Sub Editing

Group Design Editor: Rungano Washington Gwanzura

E-mail: washington.gwanzura@zimpapers.co.zw

Phone: 0772 421 315

Advertising & Marketing

Advertising & Marketing Executive: Milcent Matongo

E-mail: milcent.matongo@zimpapers.co.zw

Phone: 0712 380 403

For all enquiries:

Address: PO Box 396, Corner Sam Nujoma and George Silundika, Harare

Phone: 08677004323, +263 (24)2795771

New format for seasonal forecast

2022/2023 Rainfall Season Outlook

The Meteorological Services Department issued the 2022/2023 seasonal rainfall forecast on 31 August 2022.

The seasonal outlook is an important planning tool for the different sectors which depend on rainfall.

The current seasonal outlook, unlike in previous seasons, was issued for four sub-seasons namely October-November-December (OND), November-December-January (NDJ), December-January-February (DJF) and January-February-March (JFM) to show the transitions across the months.

Unlike in the past, where the seasonal forecast was given for two sub-seasons, OND and JFM, this new format shows the transition between sub-seasons to the sub-seasonal rainfall total.

October-November-December Sub-season

The forecast for the first sub-season October to December is indicating the likelihood of normal to below normal rainfall for the areas in the northern half of the country (Figure 1(b)).

These areas will receive accumulated rainfall, which is in the normal range or less. In other words by the end of the three month period, these areas are likely to have received their "usual rains" or less.

The term "usual rains" has been taken to mean the rainfall amounts that the area would receive in most years. It should also be noted that the first two sub-seasons are the periods where meteorological hazards which have a notable effect on tobacco farming, such as hailstorms, are common.

November-December-January sub-season

During the three-month period NDJ, there should be an improvement in the accumulated rainfall with the country expected to receive normal to above-normal rainfall (Figure 2(a)).

This means that there is a higher likelihood for these areas to receive their "usual rains" for that time of the year or even more.

It should also be noted that the first two sub-seasons are

the periods where meteorological hazards which have a notable effect on tobacco farming, such as hailstorms, are common.

During the DJF period, the western and southern areas are expected to receive above-normal rainfall (Figure 3(a)). This means that there is a high likelihood that these areas will be receiving more than their "usual rains" for that time of the year or even more.

December-January-February sub-season

During the DJF period, the western and southern areas are expected to receive above-normal rainfall (Figure 3(a)). This means that there is a high likelihood that these areas will be receiving more than their "usual rains" for that time of the year or even more.

January-February-March (JFM) 2023 period

The JFM period is also expected to receive normal to above-normal rainfall (Figure 4(a)). This means that there is a high likelihood that these areas will be receiving their "usual rains" for that time of the year or even more.

The Meteorological Services Department will continue to monitor all the available seasonal climate indicators which influence Zimbabwe's rainfall as they evolve.

The seasonal forecast focuses on the accumulated rainfall amount for a sub-season or three-month period such as OND or NDJ in comparison to the long-term average of an area for that specific period.

The seasonal forecast is to be used in conjunction with the 3-day and 10-day forecasts including the user's knowledge of the rainfall patterns within their area.

Given the current forecast, there is need to improve stocks of seed and fertilisers. There is a higher risk of leaching during the season.

Farmers are encouraged to practice soil conservation techniques such as construction contours and storm drains.

High rainfall may result in an increase in livestock diseases therefore farmers should stock up on dipping chemicals and ensure consistent dipping.

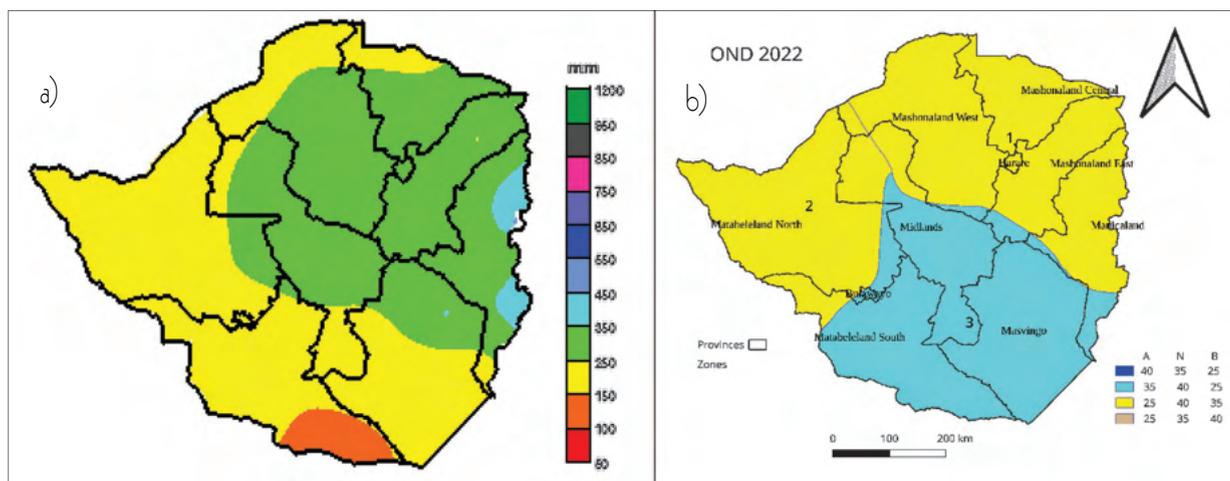


Figure 1(a) Long-term mean rainfall for October-November-December (1981-2010), (b) Seasonal outlook for October-November-December 2022

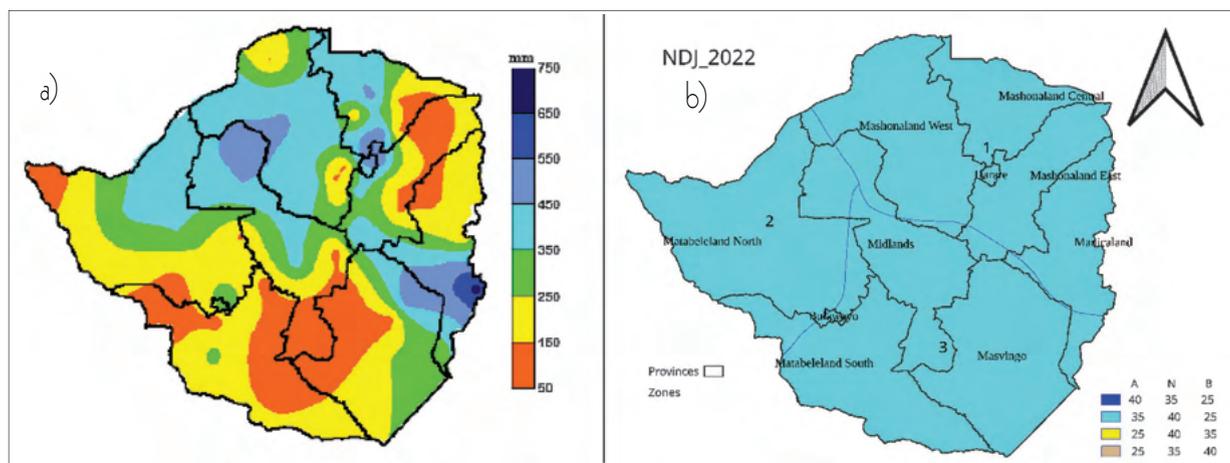


Figure 2(a) Long-term mean rainfall for November-December-January (1981-2010), (b) Seasonal outlook for November-December-January 2022/23.

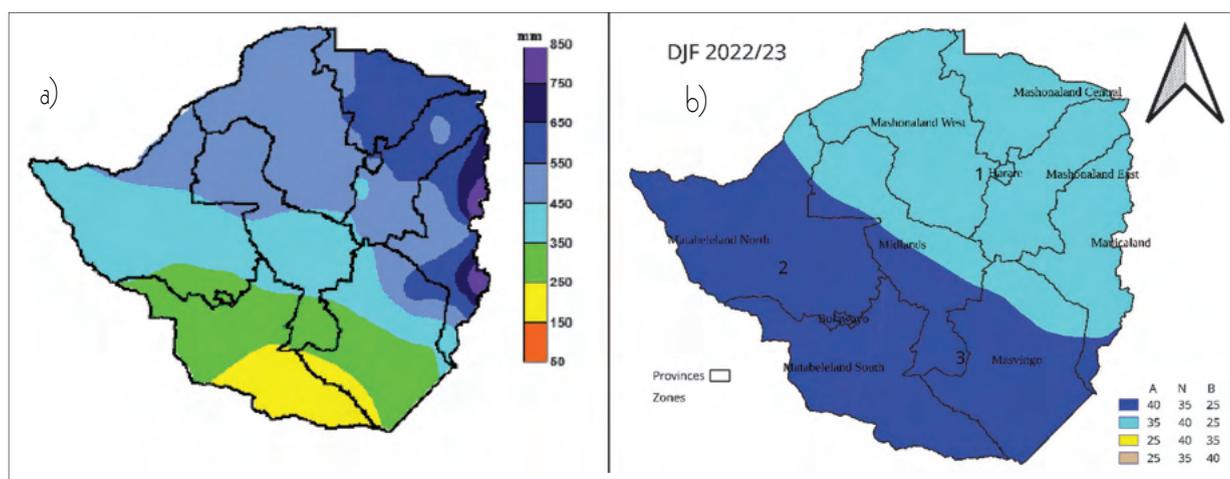


Figure 3(a) Long term mean rainfall for December-January-February (1981-2010), (b) Seasonal outlook for December-January-February 2022/23.

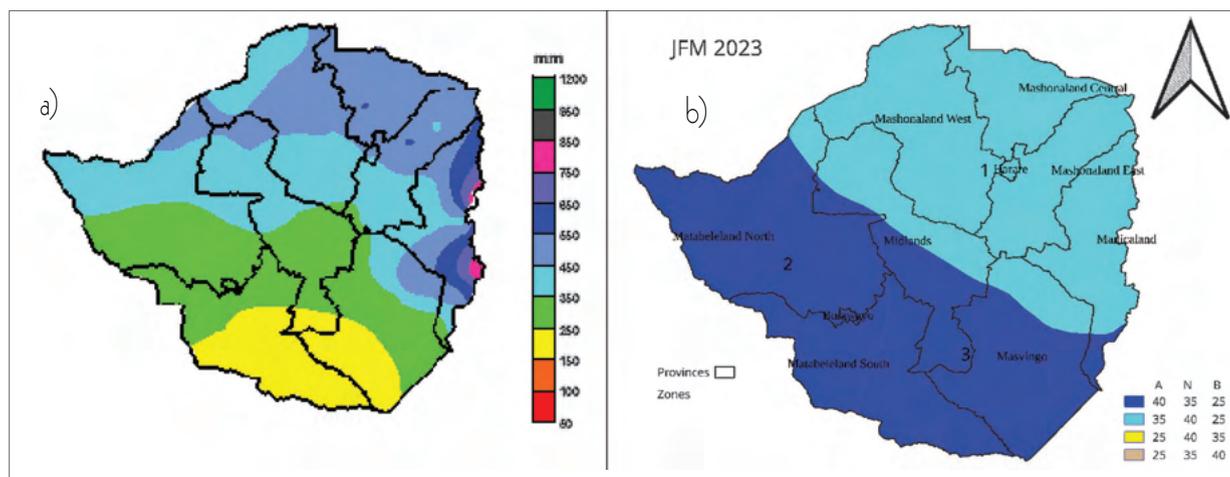


Figure 4(a) Long term mean rainfall for January-February-March (1981-2010), (b) Seasonal outlook for January-February-March 2023.

Soil pH: Need for lime to correct acidity

Emmanuel Chikwari

CABINET recently approved the Agriculture Recovery Plan whose main objective is to stem the continued reduction in production and productivity of maize, wheat and soya bean.

One of the solid interventions required to reverse the negative production trends, attain self-sufficiency and allow the country to move away from the perpetual importation of these strategic commodities is conditioning the soil in order to improve its productivity. Soil acidity is the biggest challenge in most smallholder farms.

It has become clear that without liming acidic soils, the chances of optimising soil productivity are very slim.

Government, through the Ministry of Lands, Agriculture, Water and Rural Development rolled out the Blitz Soil Conditioning Programme to ameliorate soil acidity and improve agricultural productivity.

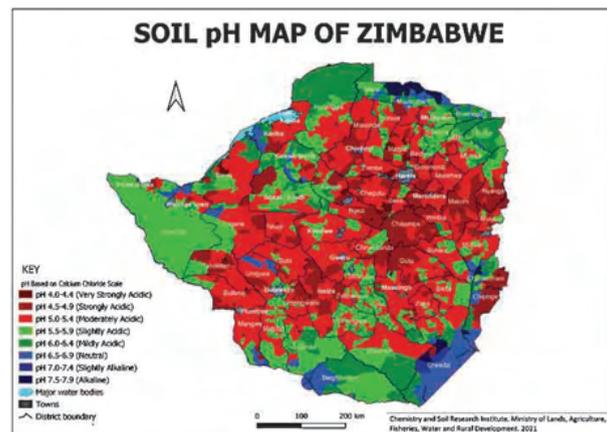
This programme therefore seeks to reinforce liming of acidic soils as has been identified as one of the strategies in National Development Strategies 1 (NDS1) to ensure food security.

The programme entailed pH analysis of at least 100 soil samples for every communal ward, giving lime recommendations, and developing national and provincial maps.

Through this rigorous exercise, soil pH results and lime recommendations were given to farmers through Agritex and soil pH maps were used to advise policy on lime distribution and utilisation in the country.

What is soil pH?

- Soil pH is a measure of acidity or alkalinity of a soil.
- It is measured on a scale from 1-14.
- An acidic soil is one whose pH (measured in water) is below 7.0 units while an alkaline soil has a pH above 7.
- When pH is determined in 0.01 moles per litre of calcium chloride (0.01M CaCl₂), the neutral pH value is lower than 7.
- For crop production, yields are adversely affected when pH is below 5.0 units on a CaCl₂ scale.
- Soil acidity affects nutrient availability and plant growth.
- Incorporation of lime into the soil sweetens it by correcting soil acidity.
- Correct soil pH increases fertiliser use efficiency and ultimately improves soil productivity.
- Liming a soil beyond optimum pH ranges negatively affects soil productivity.

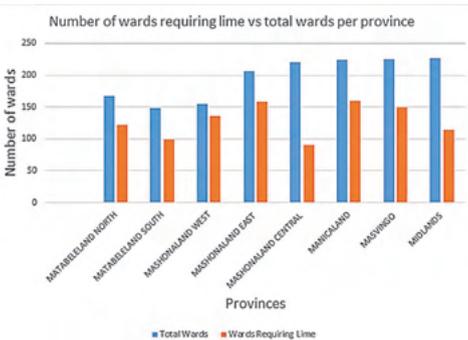


SOIL PH VARIATIONS IN ZIMBABWE

More than 70 percent of Zimbabwean soils are acidic and require liming to correct pH for optimum crop productivity. Soil pH variations are largely mediated by amount of rainfall. Those areas that receive more rainfall are largely acidic whereas the drier parts of the country are alkaline.

Remarks

- For maize production, no lime is required in the green and blue areas and the minimum pH to be achieved through liming is 5.5.
- For legume crop production, slightly acidic soils should be limed to achieve a minimum pH of 6.0.
- Lime should be utilised in the brown, dark red and red areas for maize production.



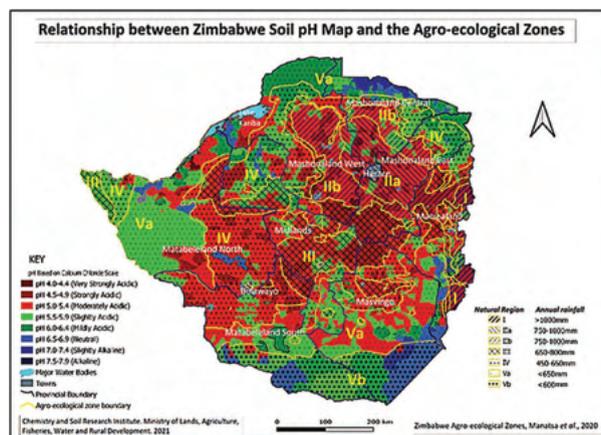
About 65 percent of all the wards in the country have acidic soils that require lime for optimum maize productivity.

The pH benchmark (on a calcium chloride scale) for soil conditioning through lime is 5.5 for maize production.

This benchmark has been used throughout this report. The 65 percent therefore excludes slightly acidic (5.5-5.9) and mildly acidic (6.0-6.4) soils.

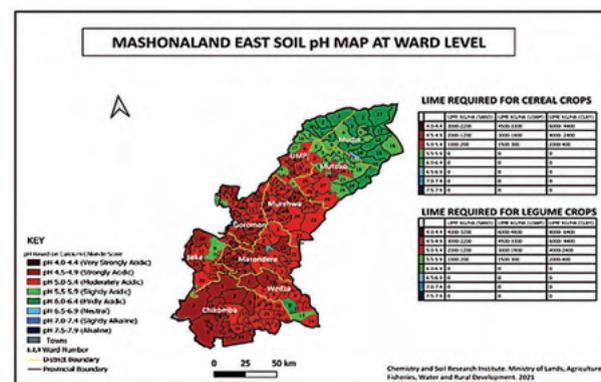
If benchmarking is based on legume crop production, more than 70 percent of the wards would require lime. These two crop types (maize and legumes) are important in soil acidity amelioration.

The order of acidity (proportion of wards with acidic soils requiring lime) follows the trend: Mashonaland West (88 percent), Mashonaland East (76 percent), Matabeleland North (73 percent), Manicaland (71 percent), Masvingo (67 percent), Matabeleland South (67 percent), Midlands (50 percent), Mashonaland Central (41 percent).



As the trend for soil pH dependence on rainfall is evident, the revised agro-ecological map can be further improved by considering soil pH as it is an important parameter that is strongly influenced by rainfall.

Soil pH variations across provinces



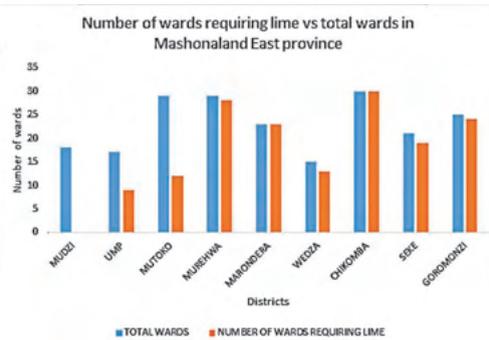
1. Mashonaland East

Soil acidity is a common problem in districts that receive high rainfall (Chikomba, Seke, Wedza, Marondera, Goromonzi and Murehwa). Soil acidity correction through liming should be highly promoted.

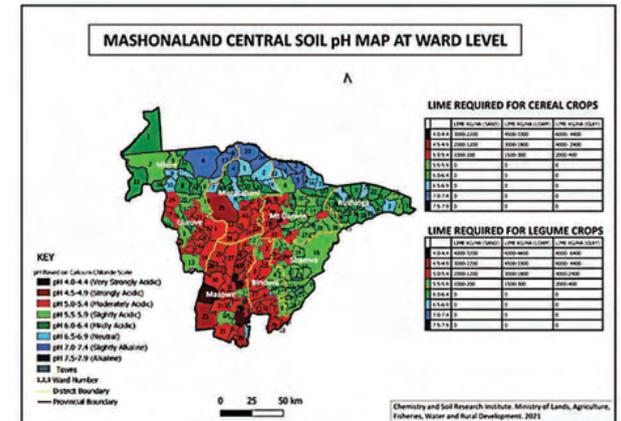
- Higher soil pH values in more arid districts such as Mudzi and some arid parts of Mutoko district. Problem of lower crop yields could be attributed to low rainfall and not soil acidity in these districts. If rainfall is supplemented by irrigation, such soils would sustain productivity (if adequately fertilised).

Remarks

- As a guide to the lime requirements: pH range of 4.0 - 4.4: 3000kg/ha of lime corresponds to the lowest pH value (4.0) in the range and 2200 kg/ha of lime corresponds to the highest pH value (4.5) in that range for cereals grown on sandy soils.



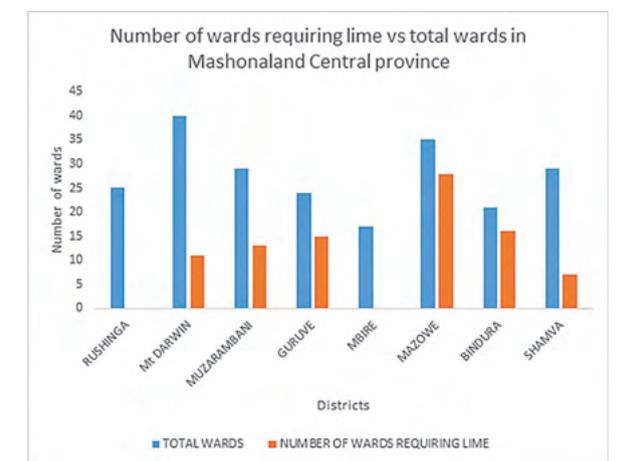
The graphs show the need for lime in those districts which receive high rainfall such as Goromonzi (96 percent of the wards), Seke (90 percent), Chikomba (100 percent), Wedza (87 percent), Marondera (100 percent) and Murehwa (96 percent). Only a few districts in Mutoko (41 percent) need lime compared to those which do not require lime while UMP has 53 percent of the wards that require lime. No lime is required in Mudzi district in all the wards. For the whole province, 76 percent of the wards require lime.



2. Mashonaland Central

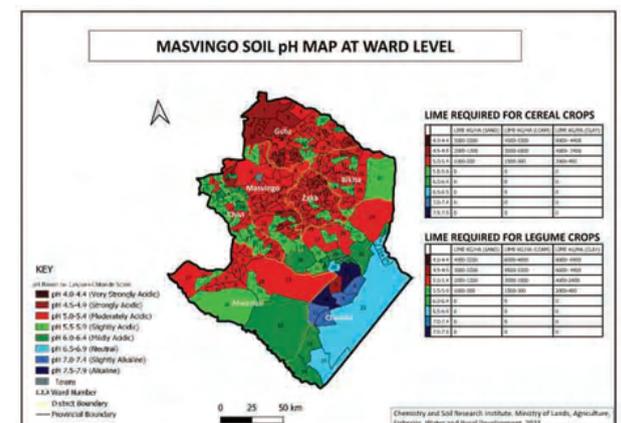
Soil acidity is evident in high rainfall districts (Mazowe, Bindura, Guruve and some parts of Muzarabani, and Mt Darwin). Soil acidity correction through liming should be highly promoted. Having conditioned the soils with lime and balanced soil nutrition through fertilization, these areas will sustain high crop production.

- More arid districts such as Mbire and Rushinga and some arid parts of Muzarabani, Mt Darwin and Shamva districts have higher pH values. Low crop productivity is more attributable to low rainfall and not pH. With supplementary irrigation and goof fertiliser regimes, these areas can sustain high crop production.



Lime is required in those wards which receive high rainfall. Highest requirements are in Mazowe district (80 percent of the wards) and the trend goes down to the driest districts; Bindura (76 percent), Guruve (63 percent), Muzarabani (45 percent), Shamva (41 percent), Mount Darwin (28 percent), Rushinga (0 percent), and Mbire (0 percent). Overall, the province has 41 percent of the wards in need of lime.

3. Masvingo



Indigenous chickens: road to nutrition security, income generation

John Taderera

FOLLOWING the successful launch of President Mnangagwa's Rural Poultry Scheme in Masvingo, this article will seek to explore the benefits of rearing indigenous chickens and the scheme's implementation modalities.

Indigenous chickens are the most abundant livestock in many rural and peri-urban households in Zimbabwe.

These chickens are also referred to as rural, village, backyard, scavenging, traditional or family chickens, and have various names in local languages.

They play an important role in household economies in that they convert feed resources available in the homestead to highly nutritious and valuable protein products.

Although their output in terms of weight gain and number of eggs per hen per year is low, it is obtained with minimal inputs and with low risk.

This makes it one of the major advantages of extensive indigenous chicken production systems. Significant returns can be achieved from indigenous chicken without the need for expensive housing, complex technology and funding just by utilising locally available resources.

Animal protein consumed in rural areas frequently comes from indigenous chicken meat and eggs.

Chicken can also be sold or bartered to meet family needs such as medicines, clothes and school fees.

In this way, they act as a ready source of cash for emergencies and small purchases. These birds are also important during special festivals, traditional ceremonies and treatments.

Chicken meat and eggs provide a readily available, high-quality source of proteins, vitamins and micronutrients. Eggs are an excellent source of iron, zinc and vitamin A, all of which are essential to health, growth and wellbeing.

Chicken and eggs contribute to a nutritious and balanced diet, which is especially important for children, nursing mothers and many vulnerable groups.

Nearly all rural and peri-urban households keep small flocks of indigenous chicken, mostly owned and managed by women and children.

Simple changes in management of indigenous chickens can significantly improve production and the living conditions of many rural families in terms of enhanced nutrition and income generation through the sale of surplus chickens or eggs.

Improved indigenous chicken production is therefore a low-cost and important aspect of enhancing food and nutritional security.

As Government continues to implement programmes to empower its citizens, the President subsequently launched the Presidential Rural Poultry Scheme in an effort to make sure that the country achieves an upper middle-income

status by 2030.

The Presidential Rural Poultry Scheme is one of the many building blocks under the agriculture sector meant for the achievement of food and nutrition security and ultimately self-sufficiency.

Government seeks to develop and commercialise indigenous chicken production to benefit farmers and the general populace in terms of nutrition security, incomes and general livelihood improvement.

The programme targets to distribute 30 million indigenous chicken chicks at one month of age to three million households countrywide.

The input package also includes a vitamin stress mix and the agriculture and rural development advisory services directorate will be responsible for farmer training on good indigenous chicken husbandry practices as well as technical backup to all the beneficiaries of the programme.

The scheme will be implemented over a period of two years with equitable distribution of the chicks in all the 10 provinces of the country.

Targeting of the beneficiaries will start with vulnerable households in the community and selection will be done by ward selection committees made up of community leadership.

The vulnerable households will

include but not limited to orphans, elderly, and people living with disabilities, widows, widowers and so on.

Government has already made an investment at the scheme launch site, Sipambi Business centre in Ward 11 of Masvingo District, in the form of poultry houses, a hatchery, a borehole and reservoirs for the purposes of expanding rural poultry production.

The place will act as a Youth Centre of Excellency responsible for developing youths into agri-preneurship and the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development will be responsible for running the institution.

The activities at the centre will include indigenous chicken breeding, with at least 1 500 indigenous chicken hens, as well as a hatching indigenous poultry eggs.

Communities around the hatchery will also benefit through hatching their poultry eggs for increased indigenous poultry production at household level.

It is envisaged that the project will become a major producer and supplier of indigenous chickens in Masvingo province and beyond.

● **Taderera is a Livestock Specialist with the Department of Livestock Production and Development (DLPD) – ARDAS**

The Presidential Rural Poultry Scheme is one of the many building blocks under the agriculture sector meant for the achievement of self-sufficiency.



THE ZIMBABWE FREE RANGE POULTRY ASSOCIATION (ZFRPA)

- ZFRPA is engaged in training road runner farmers to take farming as a business. Trainings include:
 - use of ethno-veterinary medicine to reduce on production cost and maximise utilisation of available cheap source of medicine.
 - feed formulation so as to utilise locally available feed ingredients that maximises production at a minimal cost.
 - poultry husbandry which equips farmers with production skills set that reduces mortality and increases farmer's production stock.
 - Ultimately this improves farmer's livelihoods and disposable income hence promoting economic activities
- ZFRPA is promoting environmentally friendly climate smart poultry farming through use of climate smart technologies and promotion of circular economy.
 - Utilisation of organic manure is reducing demand for artificial fertilizer hence reducing foreign currency leakages through use of organic manure.
- ZFRPA is promoting market systems development through sound market linkages between both small scale and commercial farmers and the end market.
 - With its participation in the current Presidential poultry program, it is eyeing export market so as to increase foreign currency earnings. So the contribution of ZFRPA to the Zimbabwean economy through increase of the GDP can not be over emphasized
- ZFRPA is promoting commercialisation of road runner business with the aim of making Zimbabwe the hub of road runner production in the next decade
 - ZFRPA is selling quality road runner breeds (day olds) to all farmer's in Zimbabwe hence improving production and productivity.
 - It is also providing a ready market for the fertilised eggs. This is in addition to offering incubation services.
 - Zfrpa has actively engaged poultry value chain actors. Transporters, charcoal suppliers, hatcheries, and the private sector at large have their livelihoods improved through their participation on different nodes of the value chain.
 - Their participation is expected to improve as the project grows.

ZFRPA is currently playing a significant role as the poultry stakeholders hub. This is critical for creation of an enabling environment and favourable policies for efficient proliferation of free range poultry products on the market



ZFRPA National Office, Harare Exhibition Park, Cnr 4th Avenue and 3rd Street, Opposite NSSA Stand, Samora Machel West, Harare Tel: +263 242 790086, Mobile +263 779 600730 / +263 784 335019 / +263 775 053769 / +263 772 568895
Email: admin@zfrpa.co.zw / bjiji@zfrpa.co.zw / zfrpazw@gmail.com

SUSTAINABILITY | CLIMATE SMART | COMMERCIAL | HEALTHY EATING LIFESTYLE



SMALLHOLDER IRRIGATION REVITALISATION PROGRAMME

CLIMATE PROOFING SMALLHOLDER AGRICULTURE

Brief background

The Smallholder Irrigation Revitalisation Programme is co-financed by the Government of Zimbabwe, the International Fund for Agricultural Development (IFAD) and the OPEC Fund for International Development (OFID). The programme has a budget of US\$52 million with IFAD financing 50% (US\$25.5 million) of overall programme costs on grant terms, while the Government is financing taxes and duties (US\$7.7 million), representing 15% of total costs. Beneficiaries contribute US\$3.28 million which is 6% of total programme costs in the form of financial contributions to operations and maintenance for rehabilitated infrastructure, cost sharing during construction and in-kind contribution to soil and water conservation activities. OPEC Fund is financing 29% (US\$15.0 million) of programme costs covering civil works related to irrigation rehabilitation and road improvement. SIRP is being implemented over a period of seven years from 2016 to 2023.

SIRP's main objective is to reduce vulnerability of smallholder farmers to food and nutrition insecurity, climate change effects and economic shocks. This is being achieved through sustainably increasing rural household incomes in SIRP supported schemes and adjacent rainfed areas as well as rehabilitating and in some cases expanding targeted irrigation schemes. The programme also supports farmers in irrigation schemes and those in surrounding rainfed areas to increase productivity, production and income, as well as improving access to agricultural markets and financial services. SIRP is rehabilitating 73 irrigation schemes in Matabeleland South, Midlands, Masvingo and Manicaland.

Beneficiaries

The programme aims to reach out to 27 500 households who include;
8500 irrigators
19000 farmers in greater scheme areas
500 extension officers in both Component 1 (Irrigation and rehabilitation) and Component 2 (agricultural extension officers) who are being capacitated in various areas.

Component 1 - Irrigation rehabilitation

This component aims to revitalise 6100 hectares of irrigable land targeting smallholder irrigation schemes in Masvingo, Manicaland, Midlands and Matabeleland South. A total of 73 irrigation schemes are being targeted with SIRP having completed rehabilitation of 23 schemes covering 2286 hectares out of 6100 hectares.

Completed projects 2021

| Irrigation scheme | District | Province | Hectarage |
|-------------------|------------|--------------------|-------------|
| Musikavanhu | Chipinge | Manicaland | 570 |
| Rupangwana | Chiredzi | Masvingo | 60 |
| Gudo | Chiredzi | Masvingo | 50 |
| Banga | Chivi | Masvingo | 65 |
| Mayorca | Kwekwe | Midlands | 76 |
| Exchange | Kwekwe | Midlands | 168 |
| Chikwalakwala | Beitbridge | Matabeleland South | 65 |
| Guyu | Gwanda | Matabeleland South | 85 |
| Sebasa | Gwanda | Matabeleland South | 65 |
| Tshovani | Chiredzi | Masvingo | 360 |
| Fuve Panganai B | Zaka | Masvingo | 88 |
| Old Biri | Mberengwa | Midlands | 36 |
| Biri Extension | Mberengwa | Midlands | 117 |
| Insukamini | Gweru | Midlands | 41 |
| Silalabuhwa | Insiza | Mat South | 440 |
| TOTAL | | | 2286 |

IMPACT SO FAR

Increased production, productivity

Rehabilitation of irrigation infrastructure that had collapsed as well as scheme expansion such as in Rupangwana (Masvingo) and Guyu (Matabeleland South) has seen farmers being able to grow more crops on expanded scheme fields.

There has been increased productivity due to improved water availability and water-use efficiency for example, in Banga where a new pumping system was installed which conserves water and reduces the time that farmers spent watering the field as well as solar conversion from diesel in Sebasa and Chikwarakwara. Replacement of the water conveyancing system at Banga has helped farmers to conserve water unlike the old system where they would run out of water due to leaks and high water demand.

Below - Wheat at Banga, Chivi District of Masvingo



Below - Wheat at Chikwalakwala Irrigation Scheme in Beitbridge, Matabeleland South



Climate proofing our agriculture- moving from rain dependency to irrigation.

In an effort to ensure that farmers are cushioned against shortage of water during droughts and during the dry winter months, the programme rehabilitated water sources in some schemes and replaced water conveyancing and in field watering systems in others to create efficiency in the usage of water. The scope of works in the various schemes included repair of pumping systems, canals as well as replacement of in-field watering systems such as in Banga and Guyu.

At Banga, open canals were removed and replaced with a piped surface irrigation system that saves water. This has enabled farmers to conserve water unlike the old system where they would run out of water due to leaks, ensuring that they are able to cultivate crops all year round. Farmers are also able to irrigate the field in less time than the old system.

In Midlands, SIRP rehabilitated Exchange and Mayorca irrigation schemes with the scope of works at Mayorca including the repair of the dam wall availing water for the 76 farmers who are now able to cultivate crops all year round in the 76-hectare scheme.

Below - Pontoon installed at Mayorca, as part of the rehabilitation works



Rehabilitation has also been done at Sebasa in Gwanda where well points were drilled on the Thuli River and fitted with submersible pumps while the pumping system was converted from diesel to solar. These interventions have allowed farmers to access water for irrigation all year round in the drought prone province. At Guyu in Mat South, the scheme was expanded from 32 hectares to 84 hectares. This has availed more land for irrigation while also allowing farmers to venture into dairy farming at the scheme. To build resilience against climate change effects such as shortage of fodder during the dry months, farmers are able to grow fodder for their dairy cattle and even supply other farmers in the greater scheme area who are heavily dependent on cattle ranching in the drought prone province.

Below - The solar panels installed by SIRP, used to pump water from the Thuli River in Gwanda.



At Rupangwana in Chiredzi, the scheme was expanded from 12.5 hectares to 50.5 hectares, availing more irrigable land for cultivation of crops for consumption and sale.

Sustainability

To ensure sustainability in the maintenance of schemes SIRP has trained farmers on Operations and Maintenance for sustainable management of irrigation equipment after SIRP completes rehabilitation. Farmers make a contribution of US\$100 per hectare, per farmer per annum towards an O and M fund for scheme. Irrigation Management Committees have been trained on scheme governance and leadership, which now contributes to viable production and increased income by the farmers.

COMPONENT 2- CLIMATE SMART AGRICULTURE INTERVENTIONS AND IMPACT

Block Irrigation

This has been introduced across all schemes complimented by the cultivation of high value crops. This has seen farmers at Musikavanhu and Hamamavhaire venturing into chilli production while those in Banga are growing groundnuts and sugar beans. Sugar beans is also being cultivated at Fungai, Gudo and Sebasa.



Above bean crop at Fungai Irrigation Scheme, Chiredzi

National food security

Most of the schemes rehabilitated by SIRP such as Banga, Musaverema (Masvingo) Mayorca, Insukamini (Midlands) Chikwalakwala and Sebasa (Mat South) have planted wheat in the 2022 winter season and are contributing to national food security.

Wheat hectareage

| | |
|--------------|---------------|
| MIDLANDS | 141.1 |
| MASVINGO | 280.6 |
| MANICALAND | 336 |
| MAT SOUTH | 250 |
| TOTAL | 1007.7 |

Marketing and value chain development

As part of the establishment of market links for high value crops, SIRP is constructing a post harvest and cooling system at Insukamini Irrigation Scheme in Midlands which will benefit farmers from Insukamini, Mkoba, Mambanjeni and London Farm. Farmers will be able to store perishable horticultural products such as peas and other vegetables before delivery to the market.

Gender Mainstreaming

Under SIRP, 52% of beneficiaries are women. While they form the largest proportion of the population, they have been marginalised. The programme is working to change attitudes towards women participation in leadership positions in agriculture by encouraging women to take up leadership roles, changing social attitudes towards gender based violence and the promotion of inclusivity of marginalized groups such as Persons with Disabilities, single and widowed women in irrigation and greater scheme areas. SIRP has rolled out training on mutual decision making on agricultural activities, profit sharing and on resolution of conflict in the communities and families. Impact is already being felt in the communities trained in this area as there are now a number of female led schemes while more women now form part of IMCs. Gender Action Learning systems (GALS) approach has been introduced by SIRP and impact is already being noted, for example in Gwanda, where one of the groups trained in Samelodi is now offering anti-GBV counselling in communities and in schools. Some of the farmers have reported that they have reconciled in their marriages after the GALS training while a lot more men are now participating in roles previously allotted to women as labour sharing is taking place. In addition, such households are beginning to realise increased production and productivity in their farming operations.

Environmental Management

In order to ensure soil and environmental conservation in schemes and in the adjacent rain fed areas, SIRP has conducted training in conservation works and implementation of the same in all schemes. Farmers have constructed gabions in Gudo and Sebasa to protect irrigation schemes from flooding while also planting vertiva and banner grass in the same areas.

Building resilience

In its effort to build resilience among farmers in light of climate change, SIRP aims to ensure that farmers are able to survive even during drought years. In order to supports our high impact projects such as goat projects under the Rural Poor Stimulus Facility (RPSF) and to satisfy their own nutritional needs, farmers in SIRP supported schemes are planting fruit trees for nutrition and for sale. SIRP has supported the establishment of a fruit orchard in Sebasa (Gwanda) and planting of indigenous trees that provide fodder for livestock. SIRP distributed 40 000 seed balls which included 35 000 guava and 5000 acacia were to Midlands (Mayorca, Exchange, Lower Gweru, Hamamavhaire and Mundi Mataga schemes)

For farmers in the greater scheme or adjacent rain fed areas there is provision of small stock such as goats and chickens under the Rural Poor SF and High impact programmes. In the event of drought, farmers can fall back on these for survival though sale and purchase of various required items. Under the Rural Poor Stimulus Facility, 4175 commercial chicken layers were distributed to 835 households while 61 153 indigenous point of lay pullets were distributed to 6394 households. This was augmented by 2.33 tonnes of layer mesh, vet drugs and disinfectants delivered to the same

households.

Under Natural Resources high impact projects, 4200 point of lay indigenous chickens were distributed to 20 farmer groups in Musikavanhu, Manicaland. These groups will pass on the chickens to other farmers.

SIRP also distributed 19 cattle to the Muteyo high impact project, Chiredzi and these have grown to 41 cattle.

Nutrition Training

The Smallholder Irrigation Revitalisation Programme is also providing training in nutrition education in schools and communities adjacent to SIRP supported schemes. Government launched the bio-fortification policy in 2019 to protect consumers against lack of nutrients such as iron, Vitamin A, zinc. Rural farmers often grow their own food and as a result, do not benefit from the industry fortified foods sold in supermarkets. SIRP is promoting the cultivation of bio-fortified varieties such as the Orange maize, Orange sweet potatoes which are rich in Vitamin A. The programme is also promoting cultivation and consumption of the iron rich NUA 45 sugar beans to address these deficiencies. Farmers are already multiplying sweet potato vines in various parts of Mat South while several schemes have grown NUA45 sugar beans.

TESTIMONIALS FROM THE IRRIGATION SCHEMES



Before the SIRP intervention, our water would be from the dam, released into the stream using old canals that leaked resulting in heavy water losses. This, in turn resulted in Banga Dam drying up early because we used to draw a lot of water from the dam. We used to stop cultivation of crops in the scheme during some months of the year as we waited for the commencement of the rainy season.

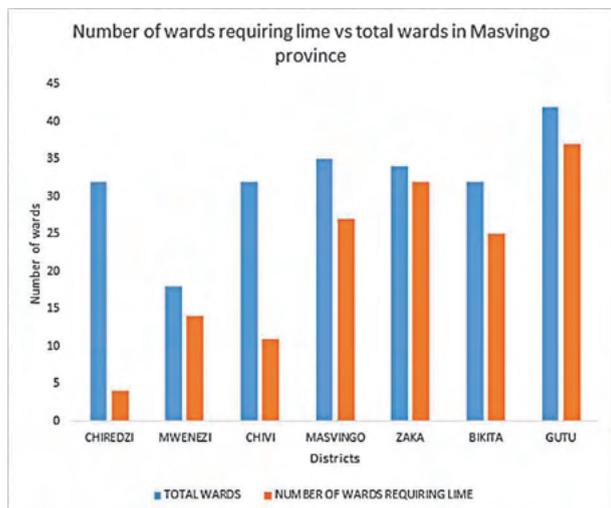
It is a different story now. SIRP provided us with new pipes and water is now conveyed straight to the scheme with no losses. The new intervention is saving us precious water and we expect to irrigate in our scheme throughout the whole year- Matiza Munogwei, Chairperson, Banga Irrigation Scheme, Masvingo



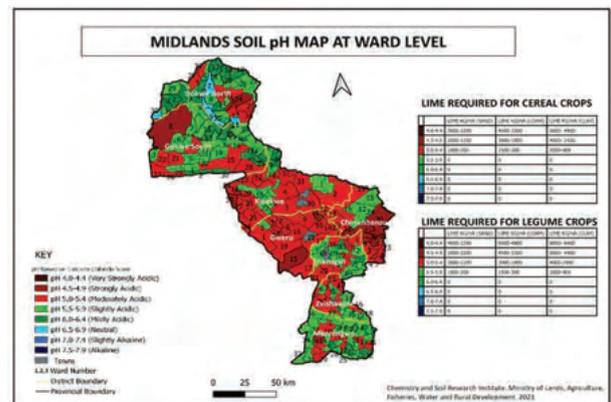
Before SIRP came, only block A was under cultivation, the water was powered from Mashaba using submersible pumps and the water was not enough. Farmers had to buy a diesel powered engine to supplement the water. There were only 43 farmers. When SIRP came, they installed eight submersible solar pumps, 176 solar panels, three inverters and 28 batteries. They also rehabilitated the canals in block A, B and C and gave us NUA45 bean seeds. They also gave us tree seedlings and we now have an orchard within the scheme. Now farmers are happy, they no longer complain of hunger. There is food security, there are also part-time jobs during planting, weeding and harvesting. Our farmers now have hope, hope for the future. Before SIRP came, as farmers were not so hopeful, we used to depend on our sons and daughters in South Africa for food. Now we can fend for ourselves, life is much better- Albert Sibanda Secretary, Sebasa Irrigation Scheme

Continued from Page 6

- Northern districts (Gutu, Masvingo, Bikita & Zaka) are worst affected by soil acidity. Gutu district is on the extreme with several wards having strongly acidic soils (pH 4.5 - 4.9).
- More arid districts (Chiredzi, Mwenezi and Chivi) have higher pH values.

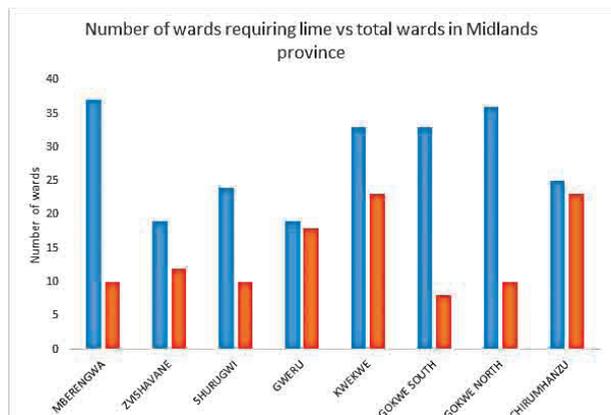


Districts which receive highest rainfall have most of the wards that require lime whereas the driest districts such as Chiredzi and Chivi have fewest number of wards that require lime. The trend of percentage of wards requiring lime is as follows: Zaka (94 percent), Gutu (88 percent), Bikita (78 percent), Mwenezi (78 percent), Masvingo (77 percent), Chivi (34 percent) and Chiredzi (13 percent). For the whole province, 67 percent of the wards require lime.



4. Midlands

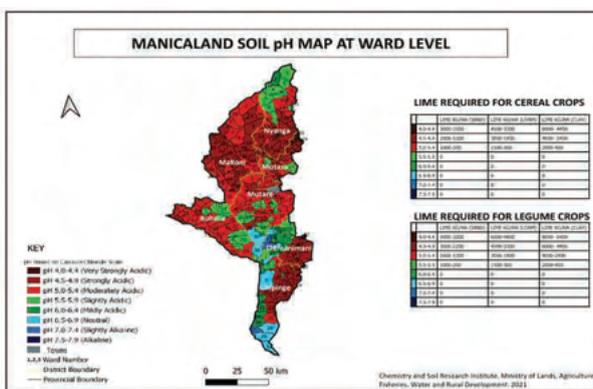
- Soils in central districts (Gweru, Kwekwe, Chirumanzu) are mainly acidic.
- The northern (Gokwe North, Gokwe South) and southern (Shurugwi, Zvishavane and Mberengwa) districts have higher pH values.



Gweru and Chirumanzu districts have the highest number of wards that require lime.

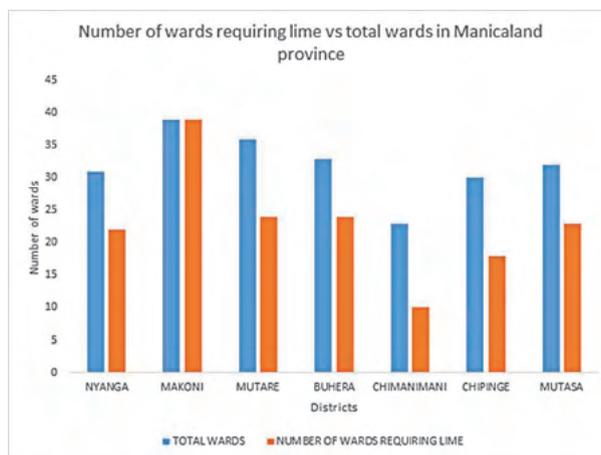
The drier districts such as Mberengwa, Shurugwi, Gokwe North and Gokwe South have fewest number of wards that require lime.

The trend is as follows: Gweru (95 percent), Chirumanzu (92 percent), Kwekwe (70 percent), Zvishavane (63 percent), Shurugwi (42 percent), Gokwe North (28 percent), Mberengwa (27 percent), and Gokwe South (24 percent). Overall, 50 percent of wards in the province require lime.

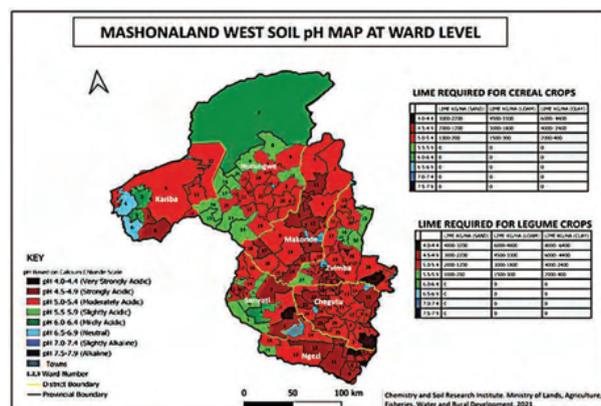


5. Manicaland

- Soils in Makoni district are dominantly acidic.
- All districts have at least 50% of the soils acidic. This follows the high rainfall belt.
- More arid parts of the province have higher pH values (northern end of Nyanga, southern end of Mutare, northern parts of Chimanimani and the western border parts of Chipinge bordering Bikita district).

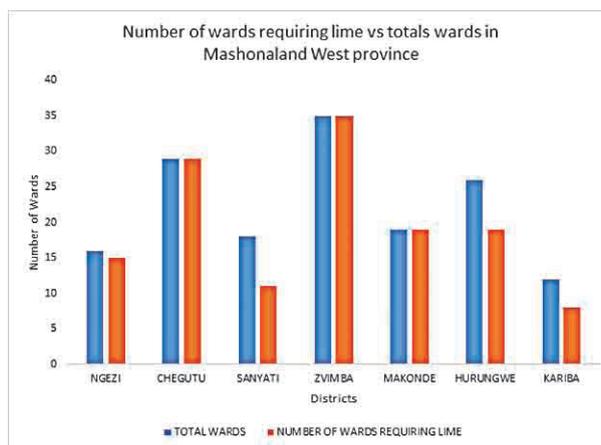


Lime is required in 71 percent of the wards. The demand for lime in terms of wards that require lime per district is as follows: Makoni (100 percent), Buhera (73 percent), Mutasa (72 percent), Nyanga (71 percent), Mutare (67 percent), Chipinge (60 percent), and Chimanimani (43 percent).



6. Mashonaland West

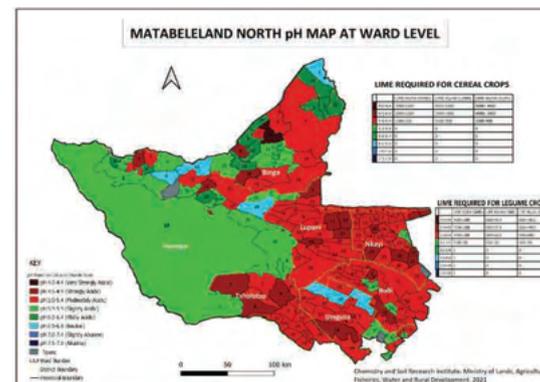
- Most parts of the province are acidic.
- Makonde, Zvimba, Chegutu and Ngezi districts are predominantly acidic.
- Sanyati, Kariba and Hurungwe districts have parts that have higher pH values which do not require lime.



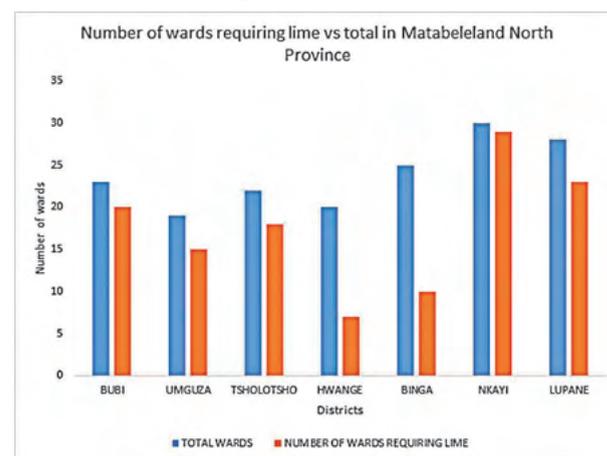
Lime requirements of the province is the greatest with 88 percent of the wards requiring lime. All the wards in Che-

gutu, Zvimba and Makonde districts require lime. The trend is as follows: Chegutu (100 percent), Zvimba (100 percent), Makonde (100 percent), Ngezi (94 percent), Hurungwe (73 percent), Kariba (67 percent) and Sanyati (61 percent).

7. Matabeleland North



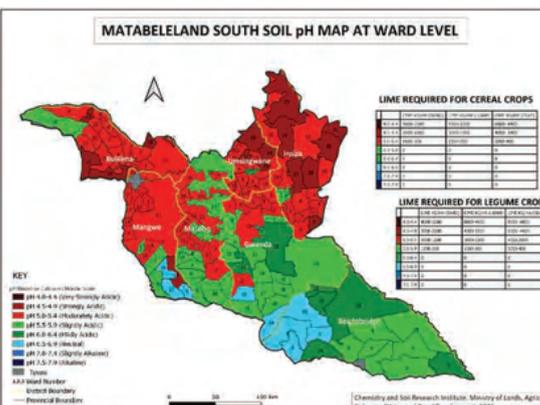
- Tsholotsho, Lupane and Nkayi districts are predominantly acidic.
- Bubi and Umguza districts have parts that have higher pH values which do not require lime.



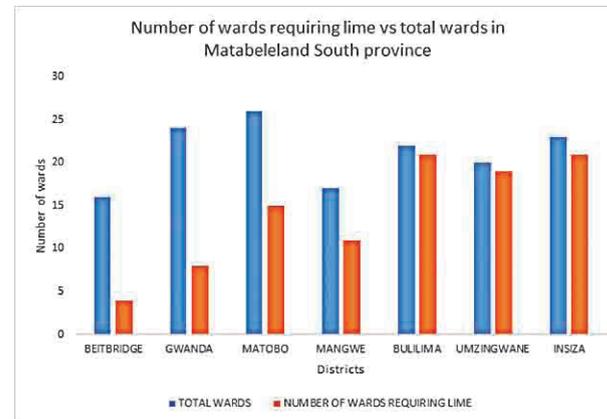
The driest districts in the province, Hwange and Binga, require the least amount of lime in terms of the proportion of wards that are acidic.

The other five districts require more lime. The trend is as follows: Nkayi (97 percent), Bubi (87 percent), Lupane (82 percent), Tsholotsho (82 percent), Umguza (79 percent), Binga (40 percent) and Hwange (35 percent). Overall, the province has 73 percent of the wards requiring lime.

8. Matabeleland South



- Bulilima, Umzingwane, Insiza and Mangwe districts are predominantly acidic whereas Gwanda and Beitbridge districts have dominance of high pH soils. Mangwe district falls in the middle of these two extremes.

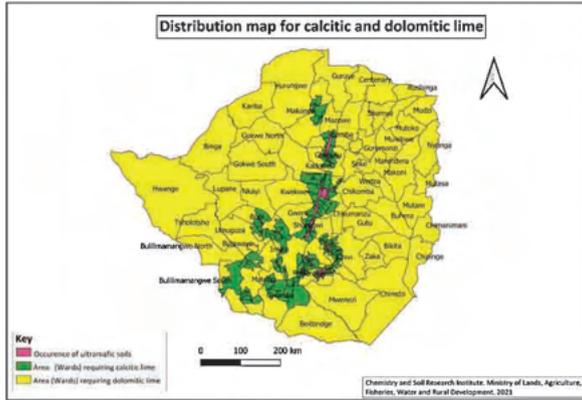


Continued on Page 11

Continued from Page 10

The driest districts, Beitbridge and Gwanda have the lowest number of wards that require lime. The soils are generally alkaline or slightly acidic. However, districts that receive higher rainfall, Insiza, Umzingwane and Bulilima, require more lime.

Soils are acidic and would need to be conditioned by lime application. The trend for the need for lime in terms of percent of wards is as follows: Bulilima (95 percent), Umzingwane (95 percent), Insiza (91 percent), Mangwe (65 percent), Matobo (58 percent), Gwanda (33 percent) and Beitbridge (25 percent). About 67 percent of the wards require lime in Matabeleland South province.



Areas that lie along the Great Dyke are have ultramafic soils. These soils have more magnesium than calcium. This therefore makes them have inverse Ca: Mg ratio. For optimum crop productivity, soils must generally have more calcium than magnesium, with Ca: Mg ratio of 4:1 as optimum. When liming soils with inverse Ca:Mg ratio, calcium-based lime should be used.

Therefore, calcitic lime (CaCO_3) is recommended for those wards marked green on the map which already have dominance of magnesium. The rest of the country would require dolomitic lime (Calcium magnesium carbonate, $\text{CaMg}(\text{CO}_3)_2$).

Provinces, districts and wards that require calcitic lime.

| Province | District | Wards |
|--------------------|-------------|--|
| Mashonaland West | Makonde | 3, 4, 6, 11 |
| | Zvimba | 6, 20, 21 |
| | Chegutu | 11, 12, 19, 21 |
| | Kadoma | 3, 8, 9, 10, 11, 12, 13 |
| Midlands | Kwekwe | 2 |
| | Chirumhanzu | 12, 19, 22 |
| | Shurugwi | 1, 5, 6, 12, 17, 18, 21 |
| | Gweru | 13, 14, 17, 18 |
| Masvingo | Mberengwa | 1, 2, 3, 5, 6, 7, 8, 9, 11, 13, 17, 34, 35, 36 |
| | Zvishavane | 19 |
| | Masvingo | 9, 33 |
| | Chivi | 1, 2, 5, 6, 8, 9, 10, 11, 12, 15, 16, 17, 18 |
| Matabeleland South | Insiza | 1, 2, 3, 7, 8, 14, 18, 22, 23 |
| | Umzingwane | 13 |
| | Gwanda | 21, 22, 23 |
| Matabeleland | Matobo | 2, 6, 7, 8, 9, 10, 11, 24 |
| | Bubi | 1, 10, 11, 13, 21, 22, 23 |



Emmanuel Chikwari is the Head, Chemistry and Soil Research Institute Department of Research and Specialist Services, Ministry of Lands, Agriculture, Fisheries, Water and Rural Development

Quelea: a menace in wheat production

Shingirayi Nyamutukwa

THE Red-billed Quelea is the most damaging pest of wheat, sorghum and millet in Zimbabwe. Quelea is a small passerine bird that has caused havoc in wheat growing areas of Zimbabwe.

Flocks of more than 50 000 birds are seen hovering on top of wheat fields ready to feast on the already near maturing crop. Damage caused is extensive and unless closely guarded the troublesome bird can rob millions of tonnes from the farmer. The average quelea bird eats around 10 grammes of grain per day and a flock of two million can devour as much as 20 tonnes of grain in a single day.

The birds can cause more than 95 percent of wheat damage while rodents and insect pests cause minor damage. Management of quelea birds is therefore critical if targeted yields are to be realised.

Chemicals used in quelea control are Fenthion or Cyano-phos, which are applied in breeding and roosting sites but only by official experts. Management of the birds during breeding time early each year helps reduce their populations so that there is reduced damage to sorghum and millet crops as well as winter wheat.

Other options available for quelea control include bird scaring and harvesting for consumption through the collection of nestlings from breeding colonies just before they fledge. Trapping birds by teams with hand held, cast and large stationary nets can be used to harvest the birds. The indigenous use of wax from mopane also helps reduce populations. While humans can set traps and harvest the birds for sale to generate income or use as relish, methods used do not significantly reduce the numbers.

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Gift Jambaya aka "Mr Tsuro" pats one of his breeders at his plot



When passion for a pet reproduced a herd of rabbits

Elton Manguwo

A HERD of 1 000 rabbits and five hectares of cabbage and lettuce!

This best sums up the activities of one 47-year old Gift Jambaya on his plot along Good Hope Road in Westgate area of Harare. The plot has been his home for the past 12 years after growing up in the dusty streets of Highfield high-density suburb.

Jambaya's story is quite intriguing to say the least. After moving from Highfield as a grade five, he was to settle in Mabelreign, just a few kilometres from his current home where he started keeping rabbits as pets.

But the boy's passion to keep the large-eared creatures with muscular hind legs and an upper lip that is split kept growing. In 2012 he moved to his current place to start keeping them on a large but commercial scale.

He started the ambitious project with two rabbits and as the herd began to grow he realised he needed a corporate identity, which subsequently saw him christening himself 'Mr Tsuro,' (Shona name for rabbit), which has stuck on him like glue. The community around him now passionately calls him 'Mr Tsuro,' a name he has become so used to that he can easily fail to realise that he is the one being addressed if someone calls him using his original name – Gift or surname Jambaya.

With his project flourishing, Mr Tsuro started participating at the then Harare Agricultural Show. At the just-ended Zimbabwe Agricultural Show he scooped 21 different accolades in rabbit production.

"I was motivated to participate at the shows by the white farmers I often saw with rabbit cages at the then Harare Agricultural Show," said the soft-spoken Mr Tsuro recently.

His day starts with early morning

check-ups of the rabbits and ends with late night check-ups too to make sure everything is in place.

Armed with the technological savvy to survive in the modern concrete jungle of the corporate world, Mr Tsuro a computer engineer by profession who studied IT and micro-technology engineering now survives on his childhood enthusiasms. From supplying computer hardware as a 23-year-old man trying to find his place in the world, Mr Tsuro is now providing rabbit meat and breeders to all four corners of the country.

Mr Tsuro sells his rabbits to major retail outlets such as OK, Bon Marche, Food Lovers Market and TM that sell the rabbits as meat. Mr Tsuro explained how he integrated his farming operations by fixing rabbit cages, offering lessons and breeders to would-be farmers so that he can benefit from the whole value chain.

"I do about four projects weekly. I fix and supply cages and breeders so that the rabbit industry can grow and expand to meet the domestic demand, as the current retail uptake rate is insatiable and hungry. Cleverly, by satisfying the domestic market the excess will open up some new horizons for the export market," Mr Tsuro said.

Mr Tsuro also leverages on the accessibility of social media platforms such as WhatsApp for marketing information. He is a member in over 10 WhatsApp groups that have over 500 participants each – people who want to learn and enter the rabbit production subpace.

Besides the five people he employs to help him with the day to day operations, Mr Tsuro is happy to be empowering a lot of other people along the value chain.

Said Mr Tsuro: "Serious youths are engaging in rabbit farming and are just eager to take the project head on.

When I started my rabbit project most people were cynical about the project while agricultural shows provided me with the platform to score a number of sales. I have always tried to capture the relevance of the show by making sure that I market my brand and business."

He acknowledges that he has managed to build a good market that is consistent and always hungry for rabbit meat.

I plan to be the biggest supplier in Africa and most importantly, I want to be the biggest in the world and I have crafted a roadmap in which in the foreseeable five years, I want to feed the whole country making sure every butchery has rabbit meat.

"My market is any person. Wherever there is a mouth, there is my market," Mr Tsuro joked recently.

He feeds his rabbits with pellets supplemented with dry hay and greens especially for mothers that would have given birth, as they tend to lose appetite for hard pellets.

In addition, Mr Tsuro said: "This is no longer a hobby. Am now a businessman through agriculture therefore."

Mr Tsuro does not hide how being a household brand in the rabbit industry has been helping him mitigate feed challenges, as he has been attracting feed manufacturing companies such as Hyper Feed to sign marketing endorsement deals that result in him getting discounts on feed purchases.

As a business man he stresses how he had to shift from the idea of keeping rabbits as a hobby to building the current large herd. He keeps the rabbits in groups based on their projected value. Six to eight weeks' breeders are priced at US\$20 each while the fully grown rabbit breeder will go for US\$50. However, for meat supplies to retail outlets, he sells them at US\$10 each.

Mr Tsuro does not see the sky as a ceiling, as he plans to up-scale his operations to greater heights.

"I plan to be the biggest supplier in Africa and most importantly, I want to be the biggest in the world and I have crafted a roadmap in which in the foreseeable five years, I want to feed the whole country making sure every butchery has rabbit meat. I plan to start tanning the rabbit leather, as it is the first product of rabbits.

"The major highlight of my rabbit project was when the President visited my stand and appreciated my displays at the Zimbabwe Agricultural Show. This was when I also realised that the project can take me to places and offices that I have never been to.

Most importantly, it can propel me to greater heights that I never imagined in my life," observes Mr Tsuro.

Like every business the highest moments are always followed by the lowest of times, the rabbit breeder says as he relates how he would sometimes run out of feed at the beginning of his project.

Mr Tsuro's biggest undoing at the moment is the lack of a place of his own. The idea of moving from one place to another is stalling growth, as he cannot invest in land development.

Interestingly, the rabbit project has since catapulted him into the horticulture industry where he is producing cabbages and lettuce on five hectares of land. Proceeds from rabbit sales made the move possible.

"Besides the rabbit business generating the capital for borehole drilling and drip irrigation, the urine and waste from the rabbits give me the ultimate ingredient for my composts that I use to fertilise my horticulture products giving me purely organic produce," Mr Tsuro proudly confesses.

A product of time, who has always been equipped with an entrepreneurship spirit and mind-set, Mr Tsuro prides in the reality that he has never worked for anybody in his life but has always slaved in realising his vision.

"There are things you do not learn in the classroom – they just come from a deep passion within you. The zeal to push forward and the heart to stand the hard times when the odds are against you are all you need," says Mr Tsuro emotionally as he reminisces on how people laughed at him when he started rearing rabbits.

Youths that are beginners in the business must stay on course and be focused especially when they start realising the fruits of their sweat, advises Mr Tsuro.

Tobacco agronomic practices for sustainable, economic production

‘Enabling your choice of variety to attain its yield potential’

(established through soil testing), at the right place, right time and right amount.

Basal fertiliser is tractor applied during

ridging or it can be hand-applied as banding on both side of the plant within 7 days after planting at about 10 cm from the plant crown

and at the rooting zone to avoid fertiliser burn.

● Continued on Page 14



Chinaniso Chibudu

Profitable production of tobacco depends, amongst other factors, on effective and sustainable management practices.

While Kutsaga tobacco varieties have a yield potential of up to 5 tonnes per hectare, the national average yield for tobacco production in Zimbabwe remains below 2 tonnes/ha.

Factors affecting yield include; poor pest and disease management &, non-adherence to cultural and agronomic practices.

Outlined below are some tobacco agronomic practices that growers should use for sustainable and economic production.

Seedling selection and transplanting

Selecting the correct tobacco variety suited to the growing region is very important. Growers should also note that, careful selection of seedlings at transplanting is critical for a good stand.

An ideal seedling for transplanting should be 10-15 cm in height, pencil thick, well hardened and free from disease infection or insect damage. Any seedlings which are below this standard are subject to transplanting shock and thereby reduce crop stand.

Old seedlings (>90 days) should be avoided as these tend to flower early reducing yield. As a general rule, triadimenol should be applied two days before transplanting to prevent sheath rot in the field.

Transplanting

For dry planting the field should be pre-irrigated two weeks before planting. It is important to have adequate amount of water in the hole to ensure seedling survival. Planting holes should be deep and large enough to accommodate between 3-5 L depending on the amount applicable for a particular field. A prior test to determine the amount to apply is done a day before transplanting by holing out 3 holes in which 3, 4 and 5, litres are added consecutively. The minimum amount that would have linked-up with the residual moisture 24 hours later would be the ideal amount to use in that particular field.

Basal fertiliser application

The tobacco plant requires macro-elements such as (nitrogen, phosphorus potassium, magnesium and sulphur) and minor elements such as Boron for improved yields and quality. These are provided for in compound fertilisers and high analysis blends as basal applications as per soil analysis recommended rate. Effective and efficient use of fertilisers depends on soil testing, appropriate selection of nutrient source and efficient placement methods that enhance efficient utilisation of supplied nutrients in order to increase yield and minimizing fertiliser cost. Growers must apply only the amounts required by the crop

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Tobacco agronomic practices for sustainable, economic production

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Top dressing

Tobacco requires adequate nitrogen for reasonable maturing time and leaf curability during its major growth period but with the amount decreasing rapidly from topping time onwards.

Sources of nitrogen for side dressings that can be used include ammonium nitrate, sodium nitrate, calcium nitrate and potassium nitrate.

Nitrogen fertilisers are applied using the dolloping method and the fertiliser should be placed 10 cm away from plant and 5 cm deep and covered unless it is applied under wet conditions.

As a general guide, for the early ploughed land (up to March) apply 25 kg N/ha at 3-4 weeks after planting. For the late ploughed land (from June onwards) dollop in an 8-ml cup/plant of fertilizer ammonium nitrate.

For cultivars requiring extra top dressing at topping (e.g. KRK26, KRK28), apply a 5-ml cup/plant of an all nitrate-nitrogen fertilizer (e.g. calcium nitrate or nitrate of soda) at topping. If an all nitrate fertilizer source is not available, apply a 2-ml cup of fertilizer of ammonium nitrate a week before topping.

Weed Management and Herbicide application

It is important to keep the tobacco crop free of weeds during the period of major growth. Methods of weed control include hand-weeding or by a combination of chemical, hand or mechanical methods.

The most efficient way of controlling weeds is herbicide application however, this needs careful understanding of the label in relation to the weed spectrum and application amount to avoid damage to the plants. It must be remembered that herbicides, will only become active in the soil when it is wet by either irrigation or rain.

Herbicides can be applied at pre-ridging, post-ridging, pre-planting before holing out and at post-planting.

Herbicide sprays must be directed towards the base of the crop to avoid direct contact with the apical bud. It is recommended that sprays be done early in the morning when there is no wind.

Topping and Sucker control

If the tobacco crop is not topped on time this will result in low yield and poor tobacco grades of the cured leaf.

Topping with normal fertilisation and standard flowering cultivars should be done as soon as the plants attain 18 reparable leaves where the apical bud is removed as shown in Fig 2. Topping up to 22 leaves has been shown to be less profitable in most of the varieties except for some mammoth ones.

Topping results in sucker development. Sucker control can be achieved manually through hand-suckering or chemically through the use of suckercides.

Manual sucker control however, is time-consuming and labor-intensive thus, the use of suckercides is recommended when suckers are less than 2cm in length.

Suckers longer than 2cm should be removed mechanically and suckercide should not be applied when plants are wet from rain or dew or when the plants are badly wilting.

Conclusion

The government in 2021 approved the Tobacco Value Chain Transformation Plan, as presented by the Minister of Lands, Agri-



Figure 3. a) Bud topping.

b) Avoid splashing of suckercide on the uppermost leaves



Figure 2 a) Use a stick to make hole

b) Place AN in hole and cover



Figure 4: Poor sucker control (left) and good sucker control (right).

culture, Fisheries, Water, Climate and Rural Development.

The Plan aims to transform the tobacco value chain into a US\$5 billion industry by 2025 with one of the pillars being increased production and productivity from 262 million kilogrammes to 300 million kilogrammes by

2025.

For the nation to achieve these targets, tobacco production needs to be done in a sustainable manner including through the use of tobacco best management practices as outlined above.

For more information, contact Kutsaga

Research Station's Crop Production and Molecular Technologies Division VOIP 0868 800 2604 or Email: tobres@kutsaga.co.zw

● Chinaniso Chibudu is the Senior Plant Physiologist at the Tobacco Research Board



Fig. 1: Rotation using G HR1 Katambora grass variety in tobacco lands

Seedbed Pest and Disease Control

“Enabling your choice of variety to attain its yield potential”



Cleopas Chinheya

Insect pests cause direct and indirect damage to tobacco crops making their management important. There are major and incidental pests and more specific pests for the conventional and float seedbed.

The major seedbed pests the grower should be wary of are cutworms, aphids, leaf miners and eaters. Cutworms cut the stems of the seedlings reducing survival rates.

Aphids cause black sooty mold on the leaf and are mostly economically important due to their aphid-transmission ability. Their management in the seedbed by the grower is therefore important to reduce the risk of viruses in the field.

Float Tray System Pest and Disease

Management

The float tray system has a lot of advantages over the conventional tobacco seedbed system since it employs economically IPM methods.

Some of the advantages of the float tray system include use of fewer and smaller quantities of chemicals, lesser disease and pest incidences and use of less water and fertilizers. Additionally, the use of the float tray seedling method eliminates the problems of the economically important root-knot nematodes.

Algae in trays and water, seedling root rot caused by *Pythium* and *Rhizoctonia* spp. are the three major challenges that have been brought about by the float-bed seedling production system.

These are attributed to the constantly moist environment in this system.

Pythium Root Rot

Pythium is a major disease of tobacco float tray seedling production systems. Symptoms of *Pythium* root rot include yellowing of leaves, wilting, and rotting of the roots. Disinfecting used float trays using sodium

hypochlorite (5% concentration) seven days before sowing also reduces disease incident in the float beds.

Rhizoctonia Damping Off

The first symptoms of *Rhizoctonia* damping-off is a small water-soaked lesion on the stem base that rapidly becomes brown and sunken. Then, lesions constrict the stem which leads to stem break-off.

Unlike *Pythium* damping-off, seedlings die without leaves yellowing and the root system can remain clean and intact with only the base of the stem turning brown. Chemical treatment is effective for soreshin control.

Algae

Algae growth in the floating tray water is preventable by ensuring that the entire water bed surface is covered with trays and no gaps are left.

Fungus Gnat

The major float-bed specific insect pest is the fungus gnat which is promoted by a build-up of algae, common in very moist conditions of media and stagnant water. Pri-

marily, the reduction of excess moisture and organic debris by the grower is important for control of the fungus gnat.

Conventional System Pest and Disease Management

Root-Knot Nematodes

Root-knot nematodes (*Meloidogyne* spp.) are among the most economically important pests on tobacco causing yield and quality losses if management measures are not applied.

Infected plants develop root galls and this is often accompanied by stunting, chlorosis and wilting of the plant.

Thus, where high root knot nematode (RKN) infestation exists, crop failure is inevitable. For tobacco growers to sustainably produce their seedlings there is need for an IPM approach for pest and disease management or adopt the float tray seedling production system.

Researchers at the Tobacco Research Board have for years been undertaking work on

● Continued on Page 16



Fig 2 Application of metham sodium fumigant nematicide in the conventional seedbed

Seedbed Pest and Disease Control

● Continued from Page 15

development of sustainable pest management options notably greener alternatives, suitable rotations, cultural and biological control methods and development of RKN-resistant varieties.

The use of non-host crops in rotations with tobacco is one of the potential alternatives to the use of synthetic nematicides and fumigants as it suppresses RKN populations.

The inclusion of Katambora grass (G HR1) (Fig. 1.) or sunnhemp treated with *Trichoderma harzianum* (T77) in the seedbed off-season as a relay crop suppresses nematode and soil-borne pathogen populations in the conventional seedbed. *Trichoderma harzianum* (T77) and Katambora grass (G HR1) are available at Kutsaga Research Station.

Chemical control also helps to manage root-knot nematodes in the seedbed.

Among the effective products available that growers can use in tobacco seedbeds are the nematicides Metham-sodium, 1,3-Dichloropropene (or 1,3-D) and Abamectin (Fig. 2.).

Insects

Conventional seedbed specific insect problems start with soil inhabiting species. These include white grub, false wireworm and termites. While these may be treated during fumigation, growers who do not fumigate soils require insecticides.

Management of seedbed insects can be successfully achieved using integrated pest management (IPM), which reduces the

dependency on chemical control options. IPM includes cultural control methods such as rotations to reduce soil insects, legislation to minimize carryover from one season to another, chemical interventions, when necessary, use of monitoring and trapping tools and biological agents. Biological agents such as *Beauveria bassiana* have shown to be effective against a wide range of insects and their use in managing soil insects is promising.

The Kutsaga Gnatbuster, is a yellow sticky trap that as part of research innovation has been shown to be an effective monitoring tool for insect pests such as fungus gnat, aphids and whiteflies (Fig. 3.).

This reduces populations while also assisting the grower to note pest levels and make relevant decisions on necessity and timing of chemical intervention. The traps are available at Kutsaga Research Station.

Conclusion

It is recommended that growers seek advice from the Tobacco Research Board should there be any queries on application of any product in the seedbeds and indeed other tobacco related matters.

For more information, contact Kutsaga Research Station's Plant Health Services Division on telephone # 086 8800 2604, Whatsapp 0714 980 980 or Email: tobres@kutsaga.co.zw or visit Kutsaga Research Station, Airport Ring Road, Harare or Business Media: Twitter & Facebook: Kutsaga Research, Facebook: Kutsaga products and services



Fig 3 Kutsaga Gnatbusters in the greenhouse



There is gold in garlic -
Page 3



Grain producer price
reviewed - P5



Report quelea birds - P10



Importance of soil
testing - P12

28 January – 14 February 2022

Bananas anchor Honde's industrial revolution

Obert Chifamba

A GOOD story is one that can be told to fullness through pictures. Such is the case with 24 banana farmers at Rupangwa Irrigation Scheme in Honde Valley whose exploits can be witnessed through the bananas they load into market-bound lorries on every market day that comes.

Recently, I caught up with them busy loading bananas into a lorry destined for markets in Harare.

Chairperson of the scheme Mr Bright Nezomba was at hand to explain their operations as well as give highlights of the challenges they are facing in their banana farming business.

"Most farmers sell something ranging from one to four tonnes of bananas per marketing day although that is now dependent on the size of the fruits. The size of the fruits has since dropped for most farmers probably due to the absence of adequate production requirements that we used to get when we were contracted to a company called Matanuska, which would give us inputs and eventually the market," commented Mr Nezomba.

He went on to explain that bananas from Honde Valley are in demand everywhere across the globe thanks to their sweetness that is presumed to be second to none.

Honde Valley is blessed with a climate characterised by hot and humid weather with temperatures reaching 28 degrees Celsius from late October to around end of April. This is the period during which most of the rainfall is received. From May to the beginning of July, temperatures are very low and may hover around minimums of 2 degrees Celsius while August is very



Mupangwa Irrigation Scheme farmers prepare bananas for the market in Honde Valley recently. Banana farming has transformed livelihoods in Manicaland Province. - Picture: Edward Zvemisha

windy. From September to October, it is very hot with maximum temperatures averaging around 30 degrees Celsius. Most of the rainfall experienced is of the convectional type with the orographic version occurring at various times of the year, in addition to the normal convectional rainfall. Honde Valley therefore receives the highest rainfall in the country, which is good for fruit farming.

But it is the current price of inputs that is giving banana farmers sleepless nights with a 50kg bag of Compound J going for around us\$46 while Murate of Potash (MOP) is being sold for us\$40 yet the selling price of the fruit swinging between us\$0, 18 and us\$0, 20 per kilogramme, which is not viable. The farmers would be comfortable with anything starting from us\$0,

25 per kg going up.

The farmers also have to contend with roads that are in very bad shape, which has seen transporters shunning the area while those that eventually choose to show up will ask for very steep fees that in the end erode the very little profits the farmers would have netted.

On the one hand, the absence of a processing plant within the plantations has also seen a high prevalence of post-harvest losses through decaying or fruit deformities — a development that can be converted into a positive if there was processing taking place.

Mr Nezomba believes all components of the banana fruit can be utilised if they had the infrastructure and farmers would not be losing anything in the process.

"We need to process everything

including the banana peels into other products that can be used elsewhere while generating an income for the farmers. We would also be creating employment for locals once we have a plant running. I am in the process of setting up my own plant although it is very small and will take time to be operational since I do not have adequate funding to install everything required at the moment," he observed.

For now, Mr Nezomba is drying bananas, producing flour and banana hair oil, which is allowing him to utilise everything that he produces in his plantation. It is, however, the slow pace of his industrialisation programme that is worrisome and may require the intervention of established players, a sponsor or even Government to get things up and running.

EDITOR'S NOTE

MY latest excursion around the countryside torched feelings of both pleasure and anxiety inside me. I must admit that the greenery that greeted me from the fields was delightful to say the least yet the planting activities some farmers were still doing left me a bit apprehensive. The situation got me thinking about a trend that seems to be running common between this season and its predecessor.

The first halves of both seasons were characterised by dry spells that in some cases saw entire swathes of crops being wiped out by the blistering sun yet the farmers did not lose hope. They still went on to plant as soon as the rains returned. But this time around the rains' return was a bit delayed and for those farmers who are not very observant, the last half of the season looks set to replicate what happened in the 2020/21 term.

In essence, the two seasons are slightly different in my view. It is those minute differences that we must acknowledge and treat them as such if we are entertaining hopes of scoring yet another

bumper harvest like we did last time. We need to demonstrate that through the crop varieties that we choose and where we chose the 'early maturing' last season, this time it should have been the 'very early maturing' variety or 'ultra-early maturing' to make up for the time lost before the rains eventually returned.

And, as farmers go about their activities, it is critical to remember that they still need to control weeds and be on the lookout for pests and diseases. Most diseases and pests find excessively wet conditions very favourable for their activities and this is most likely to happen given the fact that the rains, like last season, seem to be returning in lavish quantities once again.

It is therefore crucial to split your fertiliser applications to at least salvage a bit of it from leaching and getting washed away for the good of the crops. Do regular scouting to ensure the crops are safe from pests and diseases — and remember fall army worm is always lurking somewhere out there!

Obert Chifamba — EDITOR



It is crucial to split your fertiliser applications to at least salvage a bit of it from leaching and getting washed away for the good of the crops.



Last season farmers produced wheat enough to take the country for nine months and this season they harvested more than 300 000 tonnes.

Near-miss for national wheat target!

Staff Reporter

THE country came within spitting distance of meeting the annual national wheat requirements of 360 000 tonnes with farmers harvesting 337 212 tonnes of the cereal from 66 436 hectares planted during the 2021 winter cropping season.

The Grain Marketing Board (GMB) has since paid farmers more than \$12 billion for the 203 546 tonnes of wheat delivered to its depots.

About 66 000 hectares were put under wheat during the 2021 winter wheat season marking the third highest hectare since Independence.

Lands, Agriculture, Fisheries, Water and Rural Development director for Agritex, Mr Stancilae Tapererwa in the weekly update revealed that the bulk of the wheat was produced under the National Enhanced Agriculture Productivity Scheme (NEAPS), commonly known as Command Agriculture.

Mr Tapererewa said 44 295 hectares were put under wheat under NEAPS, which produced 234 325 tonnes of wheat.

The private sector funded 16 662 hectares and from this 89 099 tonnes were harvested while self-financing farmers planted 5 477 hectares and produced 13 769 tonnes.

Mashonaland West produced the bulk of the wheat after harvesting 100 913 tonnes, Mashonaland Central 84 101 tonnes and Mashonaland East 50 367 tonnes.

Manicaland produced 49 11 tonnes, Midlands 34 497 tonnes, Masvingo 6 920 tonnes, Matabeleland North

4 391 tonnes and Matabeleland South 6 912 tonnes.

GMB chief executive, Mr Rockie Mutemba confirmed that the parastatal had paid farmers \$12, 2 billion for the wheat deliveries.

“We have received 203, 546 tonnes of wheat valued at \$12, 5 billion. We have paid farmers \$12, 2 billion for the deliveries,” he said.

The bulk of the wheat being delivered is in the premium grade.

Government has been targeting increases in wheat production to meet the national requirement in line with the Agriculture and Food Systems Transformation Strategy, the Agriculture Recovery Plan and the National Development Strategy 1 and in pursuit of the vision of becoming an empowered and prosperous upper middle income society by 2030.

After last year’s major jump in the size of the harvest, another year of gain should see Zimbabwe achieving self-sufficiency for the first time ever.

Last season farmers produced wheat enough to take the country for nine months and this season they harvested more than 300 000 tonnes.

The country requires 360 000 tonnes of the cereal annually to ensure steady availability of bread and other confectionaries.

During the 2021 winter cropping season, 66 435,86 hectares were put under wheat, registering the third highest hectare since Independence and is only surpassed by plantings in 2004 (70 585ha) and 2005 (67 261ha).

‘Planting activities can stretch to January 15’

Elita Chikwati

WITH planting activities set to stretch to the wire this time around, thanks to the false start to the 2021/22 cropping season, Government has announced January 15 as the cut-off date for wrapping up the activities.

According to the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development’s latest updates, farmers have so far planted more than 908 999 hectares of maize countrywide with the communal sector in the lead. Planting activities are, however, continuing unabated in most areas across the country.

Government has set a target of 2 million hectares for the 2021/22 summer cropping season.

The Ministry of Lands, Agriculture, Fisheries, Water and Rural Development reports that communal farmers had by January 7, 2022 planted 483 626 hectares of maize marking a decrease from the 573 320 hectares that had been planted during the corresponding period last year.

A1 farmers planted 170 700ha compared to 161 643 ha last year, A2 farmers 100 564ha compared to 122 155 same time last year while the Old Resettlement had planted 92 418ha compared to 120 267ha last season.

Farmers from the small-scale commercial farming areas have planted 36 772ha of maize compared to 49 442ha while the large-scale category planted 18 602ha compared to 33 129ha same period last year.

Mashonaland West has the biggest hectareage under maize with farmers having planted 175 962ha with Manicaland planting 158 043ha, Midlands 146 771ha, Mashonaland East 117 151ha and Mashonaland Central 97 846ha.

Farmers in Masvingo have planted 102 375ha, Matabeleland South 65 822ha and Matabeleland North 54 029ha.

Agritex principal agronomist Mrs Rutendo Nhongonhema has since urged farmers to apply top dressing fertilisers – either Urea or Ammonium Nitrate.

“Farmers should do split applications. We encourage farmers to apply Urea because of the incessant rains. Urea fares better than



Government has set a target of 2 million hectares for the 2021/22 summer cropping season.

Ammonium Nitrate when it comes to leaching.

“Farmers should also make storm drains to reduce the washing away of the top soil by rains. We encourage farmers to continue weeding as these unwanted plants will compete with crops. If possible, farmers should hand pull if the soils are too wet to be worked on,” she said.

Mrs Nhongonhema also urged farmers to be on the lookout for pests such as fall armyworm.

Pfumvudza /Intwasa farmers must apply mulch as it will help reduce washing away of the top soil and also conserve moisture during

dry periods, she further observed.

“Farmers should also watch out for fungal diseases. Water harvesting should continue for use when the rains stop,” she said.

Zimbabwe Commercial Farmers Union president, Dr Shadreck Makombe said farmers had intensified planting adding that in some areas, there was waterlogging so farmers were failing to work on the fields.

“There are already signs of leaching. There are, however, some areas that have not received meaningful rains such as Muzarabani in Mashonaland Central. We advise farmers in those areas to continue planting

short season varieties.

“This season has not been good for farming but farmers have continued planting,” he said.

It now makes sense for farmers to switch to short season maize varieties, traditional grains and sunflower, Dr Makombe added.

The 2021/22 summer programme’s strategic objective the target is to sustainably increase crop production and productivity to meet and surpass the national requirements for both human consumption and industrial use through religious implementation of the key tenets of the Agriculture Recovery Plan

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There is gold in garlic farming – Msipa

Obert Chifamba

WHEN Douglas Msipa settled at Cheshire Farm, 10km outside Gweru in 2010, it never crossed his mind that the journey he was about to embark on would lead him into a crock of gold that would completely change his perception of commercial farming.

His farm sits on 35ha of arable land, which he immediately committed to producing an assortment of crops both for the market and domestic consumption upon settling there.

It was, however, not until six years ago that Msipa discovered that one of the crops he was producing – garlic – had the potential to generate a lot of revenue for him yet he would not require much in terms of funding and labour deployment, let alone, the hectareage.

He then committed eight hectares to the crop from which he has been reaping yields averaging 50 tonnes per season with some of the garlic being kept for seed and part of it for consumption.

Msipa was to immediately realise that there was high demand for the crop both locally and outside the country so he initiated the formation of small groups of farmers so that they could produce bigger quantities and start exports.

“I realised that we needed to try export markets starting with a minimum of 20 tonnes per month and do so consistently at least for six months, which would guarantee us markets. We have since been exporting to Botswana and Zambia but the quantities are still small,” explained the soft-spoken Msipa recently when ZimFarmers Digest visited his farm.

It was not long before Msipa and his colleagues decided to form the Garlic, Ginger, Turmeric Growers Association of Zimbabwe for which he is the production advisor. The association was formed in 2016 and has been helping farmers in various ways to promote production.

“We hold farmer-training sessions every year that always culminate in field displays in the month of July. The best legacy we will leave as an association is the need to retain perennial seed that is not hybridised and can produce tasty and disease tolerant products,” said Msipa.

Msipa believes the country has the capacity to rule the world garlic market, thanks to the crop’s high quality since it is naturally produced, which has seen it courting the attention of the Johannesburg Stock Exchange that is reportedly warming up towards it and consequently fixing a price of us\$4, 80 per kilogramme. The association will soon be sending the first samples to South Africa to see how it will perform on the market.

The farmers feel hard done by local supermar-



Ginger and Turmeric Growers Association of Zimbabwe production advisor, Douglas Msipa stresses a point on the perennial garlic brand - the variety being used in the country and at his farm in Lower Gweru. - Picture: Edward Zvemisha

kets that distort prices by selling a kilogramme for something in the region of us\$8 yet they would have bought it for a song at \$5 (local currency) from the producers.

After all is said and done, the fact still remains that locally produced garlic commands a lot of respect out there and the association has since advised producers to retain their harvest for local consumption and seed multiplication at moment, as efforts to establish organised export markets gather momentum.

The country is currently producing quantities in the region of 1 400 tonnes per season making it crucial to

start programmes that may see all provinces producing the crop on at least 50ha of land to add to what individual producers will be bringing to the table.

“Let’s make garlic available everywhere across the country, let’s do mass production and ensure prices drop to affordable levels for all citizens who want it but are failing to access it because of the high prices in supermarkets.

“We must also set up 10 centres in each province to train and assist farmers in garlic farming so that we make a lot of cash when we invade export markets,” said Msipa.



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Project viability now collateral for an agriculture loan

Staff Reporter

THERE can never be a better way to start a new farming season than doing so on the backdrop of Government’s announcement that farmers can now use the viability of their projects as collateral to access funding from the Land and Development Bank of Zimbabwe (Land Bank).

Lands, Agriculture, Fisheries, Water and Rural Development Minister Anxious Masuka (pictured right) revealed this at his Ngungunyana offices in Harare recently during the appointment of additional board members to the Pig Industry Board (PIB) and the Grain Marketing Board (GMB).

Dr Masuka also used the occasion to announce board members for the Agricultural Finance Corporation Land and Development Bank. The appointment was with effect from November 18.

President Mnangagwa approved the appointment of the additional board members for GMB and PIB, revealed Minister Masuka.

He told board members that for a long time financial institutions had been requesting for collateral with some refusing to take 99-year leases as collateral since they are not bankable while other demanded immovable property.

“While we resolve the bankability of 99-year leases and other tenure issues, the LADBZ will use project viability as collateral and not a 99-year lease.

“All a farmer needs to have is a tenure document either an A1 permit or the new securitised A2 permit or demonstrate that they are communal farmers with viable projects. That is the collateral and AFC will lend on that basis,” he said.

The AFC has been restructured to enable 21 000 A2 farmers and 360 000 A1 farmers to access loans at viable cost.

Minister Masuka said Government expected the 2, 3 million rural and urban farming households to move from subsistence farming to surplus oriented farming.

Once they move to surplus oriented farming, it means they will be selling the surplus, so they become economic participants and not spectators.

“If they are participants, it means they are into the mainstream economy and therefore Vision 2030 to them becomes a reality,” he said.

He said 360 000 A1 farmers who are farming as surplus oriented farmers should be transformed into micro family owned and family oriented agricultural businesses with perennial surpluses so

that every year, they are able to sell something and improve their lives and livelihoods for the attainment of Vision 2030.

“The 21 000 A2 farmers have no option and should be transformed to serious business women and men in the next two to three years and that will be the role of the LADBZ to provide financing required to transform these three categories of farmers,” he said.

Dr Spiwe Majuru was appointed to the PIB board while Ms Antoneller Sofalino was appointed to the GMB board.

“This is to balance the gender aspect so that we have the 50-50 representation on these boards.

“We are also bringing in the youths and their professional talents to ensure there is diversity and ensure regional representation,” he said.

The AFC Land Bank board consists of Ms Felistas Ndawi, Dr Richard, Mr Undiswi Nyikadzino, Dr Chipo Ndudzo, Mr Justin Mupamhanga, Mr Stoney Makuyana, Mr Knowledge Chikondo, Mr Gilbert Dzvuke and Mr Stancilae Tapererwa.

Acting permanent secretary, Dr Josphat Nyika urged the appointed board members to provide strategic direction to the institutions they were



appointed to.

“Your decisions will affect your employees, customers, suppliers and the shareholder (Government). Board members should have oversight, should be committed and must have care, loyalty and obedience,” he said.



Delayed cotton payments stall rural economic development - CCOZ

Staff Reporter

DELAYS in settling outstanding cotton payments from 2021 cropping season will affect the country's rural economy and development and negatively impact on the attainment of Vision 2030, the Cotton Council of Zimbabwe (CCOZ) observed recently.

CCOZ president, Mr Paul Mangwana said it would also be crucial to adjust the payments to atone for the loss of value that the farmers incurred through inflation.

Farmers are owed \$2 billion for the cotton they produced last season.

The call comes as the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development has engaged the Ministry of Finance and Economic Development to ensure the release of money to settle the outstanding payments.

"In an inflationary environment such as currently prevailing in our economy, outstanding payments lose buying power to the extent that by the time the farmer gets the money, it would not reflect the true value that it would have had at the time the farmers' cotton was collected by the buying contractor. "This inevitably results in the industry losing experienced farmers," said Mr Mangwana.

CCOZ will continue representing the cotton growers' interests by engaging all stakeholders in the cotton sector, particularly Government through the relevant ministries and authorities like the Agricultural Marketing Authority (AMA) to ensure that the cotton sector is protected and grows for the good of the nation, he added.

Meanwhile, Lands, Agriculture,



Farmers are owed \$2 billion for the cotton they delivered last season.

Fisheries, Water and Rural Resettlement Deputy Minister Vangelis Haritatos chipped in saying Government was aware of the payment delays and had approached the Ministry of Finance and Economic Development for the release of the money.

"Our Ministry continues to prioritise payment of the outstanding amount to our cotton farmers. We have written to the Ministry of Finance and Economic Development urging them to release all outstanding dues in the shortest period of time. We understand our cotton farmers' plea and also share the same sentiment for an urgent resolution by the Ministry of Finance and Economic Development

who are seized with the issue of the outstanding amounts.

"We urge our farmers to continue growing cotton until 15 January 2022 and take advantage of the rains we have been blessed with recently.

"Cotton is a very profitable crop and with the support of free inputs from Government under the Presidential Input Scheme, we believe this will further assist in transforming our rural population while generating huge benefits to the economy at large," he said.

Cotton is a strategic crop that is interwoven into the rural economy and indeed the national economy as it is a cash crop, which provides lint for downstream textile indus-

tries and generates export earnings. It is the white gold for farmers, particularly those in drought prone areas.

It provides cotton seed for animal feeds and edible oil for human consumption.

Government's intervention in cotton production through the Presidential Inputs Scheme was meant to revive the sector, which was collapsing due to low prices offered by merchants.

Most farmers in cotton growing areas had abandoned producing the crop after prices fell while merchants had also reduced input packages citing side marketing by farmers, which further affected production.

ZimFarmers Digest Team

EDITOR
 Obert Chifamba
 obert.chifamba@zimpapers.co.zw
 or ochifamba9@gmail.com
 0772886986

Takudzwa Nduku
 takudzwanduku360@gmail.com
 0715282169

Panashe Marasha
 marashapanashe@gmail.com
 0785153856

Elita Chikwati
 elita.chikwati@zimpapers.co.zw
 0773387511

DESIGN AND LAYOUT
 Wenceslaus Murape
 wenceslaus.murape@zimpapers.co.zw,
 vamurape@gmail.com
 0777624237

PHOTOGRAPHY
 Edward Zvemisha
 jonward4681@gmail.com
 0774547903

MARKETING & ADVERTISING DISTRIBUTION
 Patience Mhlolo
 sales@zimpapers.co.zw
 0777093917

PUBLISHER
 Zimpapers (1980) Ltd



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GMB recently announced the pre-planting producer prices for the 2022 intake season

Grains, oil seeds pre-planting producer prices reviewed

Staff Reporter

FARMERS are appealing to Government to constantly check on the prices of basic inputs, which manufacturers always increase each time there is an upward review of crop producer prices.

The call comes in the wake of the Grain Marketing Board's (GMB) recent reviewing of the pre-planting producer prices for grains and oils seeds, an exercise farmers say should be done constantly in line with the prevailing inflationary environment.

GMB recently announced the pre-planting producer prices for 2022 intake season with the new maize price set at \$58 553 per tonne.

In a press release, GMB chief executive, Mr Rockie Mutenha said:

"GMB is advising farmers of the following 2022 Intake Season pre-planting producer prices per tonne.

"Maize \$58 553, 25 per tonne, traditional grains \$70 263, 90 per tonne, soya beans \$125 530, 17 per tonne and sunflower \$150 686 per tonne."

In the 2021 marketing season, GMB was buying maize at \$32 000 per tonne while traditional grains producer price was pegged at \$38 000 per tonne and soya beans at \$48 000 per tonne.

Zimbabwe Indigenous Women Farmers Trust president, Mrs Depinah Nkomo applauded

Government for reviewing the producer prices but said farmers expected a maize producer price higher than the \$58 553.

She said the new producer price would no longer be viable next year during the marketing season.

"We appreciate efforts being done by Government to ensure farmers get value from their producer. The current producer price of \$32 000 had been eroded by inflation.

"We, however, expected a higher price for maize considering that it's a staple food. We are also concerned that by April next year, the price will no longer be viable. Thus there is need for constant review of the producer prices in

line with inflation," she said.

Zimbabwe Farmers Union secretary general, Mr Paul Zakariya said while it was a good thing that producer prices for cereals and some oil seeds had been announced, it should be noted that they served as indicators of where the actual value should be at the day of such an announcement.

"In an environment where prices for everything are unreasonably going up, it will be crucial for the markets including GMB, to closely monitor the producer prices and adjust them from time to time to ensure grower viability.

"This producer price, in terms of value, will not be the same in the next thirty days," he said.

Zimbabwe Commercial Farm-

ers Union (ZCFU) president, Dr Shadreck Makombe yesterday they were happy with the pre-planting producer prices and urged Government to find ways of containing random input price increases by manufacturers.

"There is a tendency that when the producer price is increased, all other prices also go high. Unfortunately, the two will not auger well not only for farmers but even for the economy. Given the situation, we also urge the business people to be responsible and not continuously chase these producer prices. We should come to an understanding so that there is a win-win situation. Above all, that is a great stride in the right direction by Government," he said.



Mr Mutenha

Domboshava florist flourishes in the midst of Covid-19

Sinikiwe Marodza

IT is no debatable matter; the COVID-19 pandemic has had devastating effects on small-holder farmers not just in Zimbabwe but the world at large. In most cases, supply chain disruptions are making it hard for farmers to get inputs — seed, fertilisers and other critical. Flower producers are among the worst hit, as they need special fertilisers and chemicals.

Adding on to the list of Covid-19 inspired problems is the fact that movement restrictions stopped small-scale farmers from going to marketplaces to sell their products, which is haunting them up to this day.

Farming under such circumstances has seen quite a number of small-scale farmers pressing the pause button, hoping to continue when things return to the old normal, but for Benigina Chigonda a small-scale flower farmer in Domboshava, Mashonaland East province, the pause button was never an option. She has defied the Covid-19 odds.

Despite the hurdles caused by the Covid-19 pandemic, Chigonda says she is doing everything possible to make sure she earns a living out of her flower project.

“It is never easy being a flower farmer especially under this ‘new normal’ but we are doing everything possible to make a living out of what we do.

“This type of farming requires more than what is needed for other farming disciplines — flowers need special types of fertilisers and chemicals and we don’t find them in our ordinary farm shops or hardware shops. That is one of the biggest challenges we are facing. Covid-19 is not giving us much room to source supplies from international markets like we used to do hence we are forced to do things the supplier’s way.

“We get chemicals and fertilisers from suppliers who import and due to travel restrictions sometimes we don’t get them easily and when we do, they will be steeply priced but we are doing the best we can to produce something at the end of the day” Chigonda said.



A worker readies flowers for the market

Adding on to her worries Chigonda said sometimes her workers got down with the bug, making the work load too heavy for other workers but she still has to make do with what is there.

“This Covid-19 virus doesn’t choose; anyone can get it and in many cases my workers or me

would get quarantined for two weeks after testing positive, which slowed down production.

“At times we end up hiring temporary workers (maricho) to help so we can still meet our customers’ demands. And that alone is a serious setback.

“Like I mentioned earlier, we

are a small-scale farm, we supply directly to local flower vendors and they need something to take to their market places everyday” she said.

Despite the fact that floriculture in Zimbabwe is not very popular, Zimbabwe is still the second biggest flower exporter and pro-

ducer in Africa after Kenya, and Chigonda says her goal is to make it to the top market in no time.

“I am a small-scale farmer, but I don’t intend to stay small for long. My goal is to explore the bigger markets. I want to one day start exporting my flowers and I am working very hard every day. So

far I have a team of six permanent workers and the other eight usually come in when the pressure is high.

“I hope to get assistance from the Government. Actually, I think they should also introduce command agriculture in the floriculture circles,” she said.

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Dairy sector's turn of fortune

Obert Chifamba

THE dairy sector is on a recovery path, producing 76, 7 million litres in 2020 and recording an average annual growth of 10, 28 percent in 2021, thanks to various stakeholder and Government initiatives to cushion farmers from high costs of production.

Feed costs currently constitute between 70 and 80 percent of the total budget of production making it critical for the adoption of schemes such as the Presidential Silage Input scheme and the command dairy programme that give smallholder dairy farmers silage inputs and medium to large dairy farmer loans for them to produce their own farm feeds so as to cut costs from buying concentrates.

Zimbabwe Association of Dairy Farmers (ZADF) national chairman Mr Ernest Muzorewa also believes low producer prices are to blame for the farmers' woeful situation too revealing that as at November 16, 2021 the average producer price of milk was \$88, 19 against an average cost of production of \$121, 02, which leaves farmers unable to break even since they are merely price takers that have no say in the fixing of the definitive price.

"Milk production is not seasonal like crop production enterprises. It has an all year round production cycle, hence it is very difficult to set fixed prices based on seasons.

"There are three main milk producer pricing systems in Zimbabwe — the double-axis pricing system, cost-plus model and negotiations between farmers' organisations and dairy processors. The two-axis pricing system involves some processors paying for farmers' milk based on a basic price plus a premium or bonus based on good quality or penalise farmers supplying poor quality or adulterated milk," observed Mr Muzorewa.

In this pricing system, processors use different

quality parameters. Different dairy processors have different milk quality parameters they use, which are usually above the minimum standards prescribed by the Dairy Act. Processors using the cost-plus model usually pay dairy farmers a flat price based on specified quantitative parameters.

Milk production in Zimbabwe has been on the decline resulting in persistent supply shortages covered by powdered milk imports, thanks to a plethora of challenges that include low prices, inadequate number of dairy cows and poor breeding strategies, high cost of production, lack of business mentality, lack of business planning and poor record keeping, aging farmers and lack of succession planning and low milk volumes.

There is generally low productivity, limited access to water, poor dairy health management practices, limited access to affordable finance, high labour turnover, limited use of appropriate technology and poor road networks especially for smallholder producers.

Producers account for 4 percent of the milk that goes through the formal market.

At the moment, capacity utilisation of dairy processing plants and machinery ranges between 50 and 70 percent for the five main large-scale processors and is below 50 percent for most medium and small-scale processors. Most processors experience high running costs due to old and cost ineffective machinery and equipment, high energy costs because of irregular electricity supply from the national grid and high costs of fuel for running back-up diesel generators.

On the one hand, the national dairy herd is at 40 000 dairy animals, of which 20 000 are milking cows producing an average of 13 litres per cow per day translating to 6, 4 million litres per month.

At peak production, Zimbabwe had a 42, 000

milking herd producing 260 million litres of milk in the early 90s. The lowest volumes of 36 million litres were recorded in 2009 from a total dairy herd of 22 000.

However, the number of animals needed to meet the national milk requirements depends on the average milk yield per cow per day while the targeted national herd size and annual national milk production by 2025 is 60 000 animals and 150 million litres respectively in line with the Livestock Development Implementation Strategy.

Government has since initiated several programmes and adopted policies and mechanisms to support and protect the local production and marketing of milk by strengthening the linkages between production, processing and financing. It is working with four partners — We Effect, ZADF, Zimbabwe Dairy Industry Trust and Zimbabwe Farmers Union.

Part of the dairy herd improvement efforts include the acquisition of 500 in calf dairy heifers under a buy one and get one project large-scale dairy processors chipped in with matches for 200 of the heifers. This initiative ensured that small-scale farmers had access to improved dairy breeds.

Government has also approved the access of inputs, mechanisation and irrigation facilities by small-scale and large-scale dairy farmers through the Presidential Livestock Input Support Scheme and National Enhanced Agriculture Productivity Scheme (NEAPS) or Command Agriculture for the first time to boost milk production.

Artificial insemination (AI) programmes have also come in handy in the push to improve the dairy herd through countering poor breeding practices and producing improved local breeds while farmers are getting tuition on own-farm feed formulations to counter high feed costs.



Government has initiated several programmes and adopted policies to support and protect the production and marketing processes of milk



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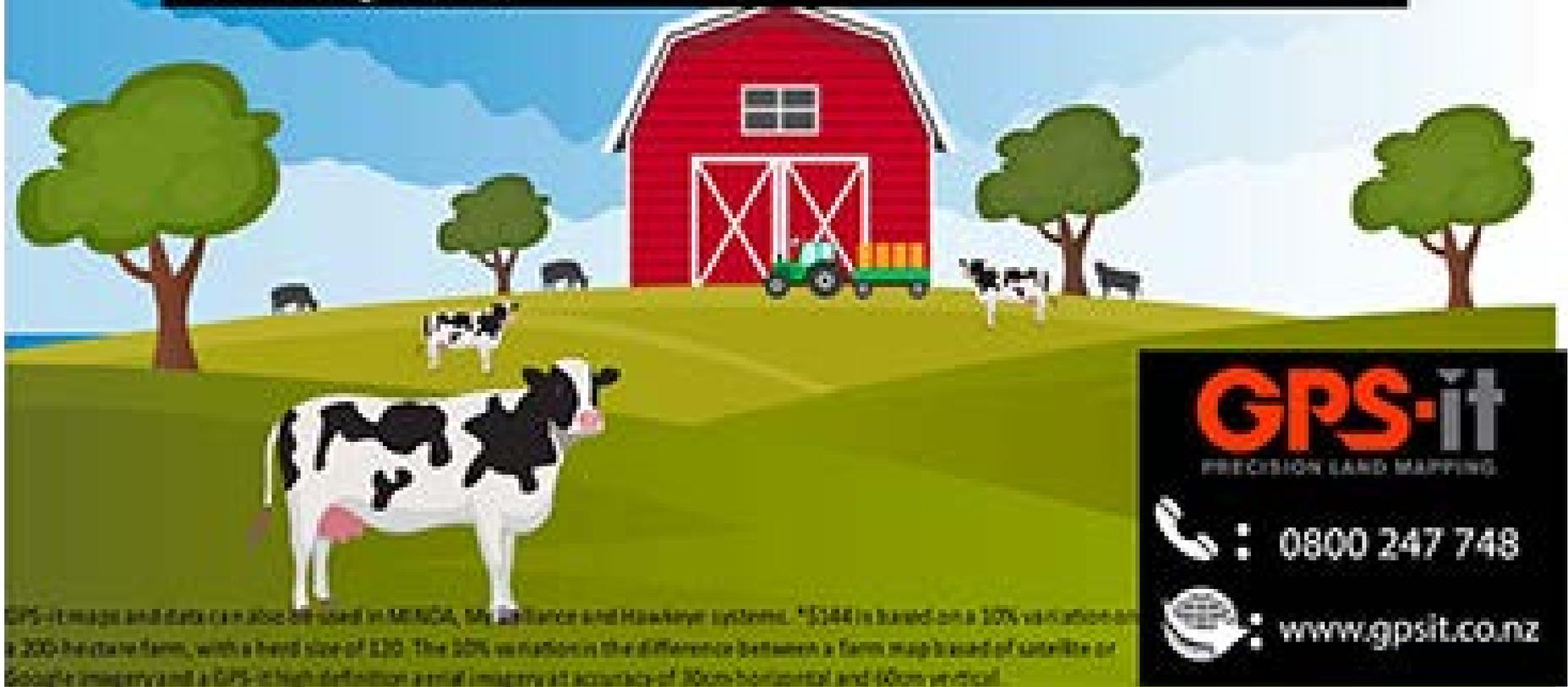
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Do contract arrangements give farmers the financial freedom they desire?

Takudzwa Nduku

THE farming industry has some of the most-funded contributors to the national Gross Domestic Product (GDP), with many projects and programmes being rolled out to ensure increased production and profitability.

However, despite this influx of financial structures are being put in place to warrant the profitability of these projects and programmes, it is still a long way before the underdog farmer responsible for the agricultural sectors' viability has the financial freedom to fix prices to their produce.

The Zimbabwe Integrated Commercial Farmers Union president Mrs Mayiwepi Jiti believes farmers are too financially disadvantaged to price their produce as most outputs come with a pegged price from the contractors who would have funded production.

The majority of rural farmers are contracted growers who do not profit from their produce, as most contractual inputs come with a pegged price that ensures the contractor earns their cut from the outputs leaving farmers with nothing to claim for their blood and sweat.

Essentially, contract farming is an agreement between companies, organisations or the Government to sponsor economically weaker farmers, to create an effective way to promote enhanced production and marketing of the agriculture sector.

In addition, if managed properly contract farming can become a source of increased income for the farmer and enhanced profitability for the sponsor.

Though, that does not seem to be the case with most of our farmers who are turning to contract farming as a way of escaping the weight of debts that come with outright borrowing or financial instability.

Although acknowledging that contract arrangements have positively changed the farming landscape, Mrs Jiti cannot help feeling that such arrangements are in some cases pushing some farmers into more debt after failing to produce enough to service their first debts and therefore keep nurturing debts from previous seasons.

Such a situation, she believes, has naturally made farmers less credit worthy with banks shunning giving them fresh capital injections to finance other agricultural activities that would potentially generate income for them to even service old debts. In the end, all farmers are stereotyped into one group that is not eligible for bank loans.

On the one hand, banks are also guilty of not creating inclusive financial structures that can



Improved access to financial support by farmers can help enhance production and profitability levels in the agriculture sector

accommodate farmers of different backgrounds with the most economically challenged farmers being the ones that are severely hit by this lack of financial freedom.

Zimbabwe Farmers Union (ZFU) executive director Mr Paul Zakariya shares the same sentiments with Mrs Jiti. He believes that the cost of money at borrowing is generally too high for the farmers to attain a point of breaking even at the conclusion of their projects with some of the conditions set by the banks proving to be too rigid to be good.

As a way of addressing the problem, Mr Zakariya proposes that banks sets conditions that are financially inclusive to the farming community, for instance, the acceptance of A2 farming permits as security or making the 99-year

lease bankable for one to secure a loan.

The creation of a financially conducive atmosphere for farmers can enhance production and profitability levels in the agriculture sector, which is known to contribute approximately 17 percent to the country's GDP.

It is also crucial for farmers to be conversant with the ins and outs of the business side of agriculture so that they can avoid losses and debts that can be prevented.

The success of the farming sector lies in the ability of the farmer to operate viably, reaping enough to repay loans, fill the belly and even sell the surplus. A self-sufficient farmer is known to produce viably and competitively, which is good for agriculture.



Mr Paul Zakariya



Report pest, quelea infestation early - PPRI

Staff Reporter

MOST wheat growing areas where farmers planted maize early have recorded quelea attacks on the crop that has reached the soft dough stage, the Plant Protection and Research Institute (PPRI) has reported.

The PPRI report said attacks were noticed in the bulk of such areas especially in the Midlands province and urged affected farmers to report infestations early to reduce losses.

PPRI head, Mr Shingirai Nyamutukwa challenged farmers to report quelea bird attack early saying the department had more than enough chemicals to spray.

"We have received reports especially from Midlands where the early planted maize is under attack from the birds. Maize at Ngondoma Irrigation Scheme was affected by the birds. We have acquired 7 410 litres of chemicals to deal with the birds. In the past we used to buy 5 000 litres, which would last up to three seasons.

"Farmers with large tracts of land should identify the roosting sites of the birds. The birds are getting into their breeding season so farmers should identify those sites and alert authorities for early control," he said.

Mr Nyamutukwa said the fall armyworm population was also building up and farmers should

continue scouting so they can make reports before the pest destroys crops.

"So far 17 hectares of maize and sorghum have been destroyed by fall armyworm in Mushumbi, Mashonaland Central. We assisted the farmers with chemicals to control the pest. We encourage farmers to do early scouting so there is early control," he said.

The institute is also assisting vulnerable farmers with chemicals to control the fall armyworm but those who can afford to buy should do so from reputable retailers, further observed Mr Nyamutukwa.

He said teams were on the ground assessing the situation on both the fall armyworm and quelea birds.

Quelea birds have been a threat to summer subsistence small grains and commercial winter cereal cropping in Zimbabwe in recent years.

Each tiny bird can feed on four grammes of wheat per day and experts say a million birds can result in losses exceeding 40 000 tonnes when the quelea birds invade fields in large flocks.

Fall armyworm causes extensive damage to maize if not controlled properly and on time.

The pest has 10 to 12 cycles and can continue recurring after the first spray.

Takudzwa Nduku

DESPITE contributing approximately 17 per cent to the national gross domestic product (GDP) and over 40 per cent of exports, the agriculture sector has largely remained ineffectively mechanised and heavily reliant on human and animal labour.

This has made it critical for the country to move with speed and mechanise the sector to improve farmers' production capacity and ultimately yields boosting food security and the availability of raw materials for the processing industry.

Government has since launched the Belarus and John Deere mechanisation facilities to boost and aid the production, profitability and productivity among both rural and urban farmers.

The mechanisation facilities have seen Government distributing implements that include tractors, combined harvesters, low bed trucks and seed drillers.

Lands, Agriculture, Fisheries, Water and Rural Development Deputy Minister Vangelis Haritatos recently indicated that distribution of small tractors had already started with only a few big one remaining.

Deputy Minister Haritatos also revealed that the John Deere mechanisation facility Phase 1 had already been undertaken promptly through CBZ Bank and the AFC leasing.

In addition, the Ministry intends to disburse more farming machinery under the John Deere mechanisation facility Phase 2, as well as through the Belarus mechanisation facility.

Although the agriculture sector



Government has since launched the Belarus and John Deere mechanisation facilities meant to boost productivity and viability of farming programmes among both rural and urban farmers.

is still dominated by traditional farming practices, the 2021/20 cropping season saw a jump in yields in the various farming programme including Pfumvudza/Intwasa that were rolled out to boost yields countrywide.

The mechanisation facility was firstly introduced by the Government in 2007 but was later reintroduced with huge improvisations under the second republic in the year 2020.

It was set up to boost agriculture yield production and pro-

ductivity, by mainly targeting newly-resettled farmers in both urban and rural areas, which later changed under the reintroduction.

The mechanisation facility is set to operate in four phases, however, the ministry recently revealed that the machinery distribution is still in phase one as they wait for the delivery of more equipment to distribute under the AFC leasing.

The Zimbabwean economy is largely agro-based and by finding

ways to enhance the productivity and production in the sector can see the success of farming programmes; Pfumvudza and Command Agriculture increase from the previous seasons.

In addition, mechanising the sector means farmers will now cut labour costs from their expenses while increasing farm outputs and revenue.

Deputy Minister Haritatos assured that the facility is running smoothly and very soon all the phases will be concluded.

Livestock traders and processors must register with AMA

Elita Chikwati

INSTITUTIONS and individuals intending to buy or sell livestock products during 2022 are now required to register with the Agricultural Marketing Authority (AMA) before conducting their business.

Such institutions include Class A, B, C abattoirs, livestock and livestock products processors, livestock and livestock products traders, livestock auctioneers and live animal buyers.

AMA will also require traders and processors to submit periodic returns to the authority while farmers should register so that they can be added on to the farmers' database.

In a statement, AMA said all registration will be done online.

"Registration of livestock products is in accordance with the provisions of the Agricultural Marketing Authority Act CAP18:24 and Statutory Instrument 147 of 2012," said AMA.

AMA is mandated with the overall regulation of the production, marketing and processing of agricultural products in Zimbabwe.

The authority also regulates the participation in the production, buying or processing of any agricultural product by producers, buyers or processors or classes of producers, buyers or processors of any

agricultural product upon such terms and conditions, including, as appropriate the fixing of quotas, as may be prescribed.

AMA also promotes the proper marketing and fair pricing of any agricultural product produced by any producer, including producers in the communal and resettlement areas, who the authority considers needs its assistance.

AMA will also require traders and processors to submit periodic returns



An advertisement featuring two cartoon characters, a woman on the left and a man on the right, both in business attire. They are standing in front of a city skyline at night with a full moon. In the center, there is a yellow circular graphic with the text "PLACE YOUR ADVERT" and "www.zimfarmersdigest.com". Below the text is a circular icon with a stylized 'Z' and the text "Click here to find out".

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How composting can be useful to a farmer

POP quiz, what is one of the easiest ways to reduce waste on your farm? Start composting! Creating your own compost pile can be easy, cost-effective and helps keep food and other waste out of the landfill. Compost is similar to a gift that keeps on giving.

First, it provides an alternative place for waste, rather than the landfill. Second, it gives you a nutrient-rich soil amendment than can be spread alongside crops. Still not sold on the whole composting idea? Not a problem. Check out these five reasons why farmers should compost with insight from the IWRC's compost expert, Jenny Trent.

1. Reduce waste

Many of us fall into the trap of throwing things out and forgetting about it. But much of what we throw away goes and sits in a landfill, taking up valuable land. One opportunity farmers have to produce less trash and send less waste to the landfill is to start composting on your farm! From plants to food waste, we know your farm accumulates lots of organic waste which is rich in nutrients. Why not keep your farm on your farm? Composting will drastically reduce what gets taken to the landfill, producing less trash and turning all of that waste into a valuable resource that you can use.

2. It's easier than you think

A common misconception about composting is that it's challenging, it requires expensive equipment or it just won't work on everyone's farm. This is not always the case though, especially if you start small and grow all materials are available. According to Trent, one of the main things to remember is that it requires three parts carbon (things like hay or dry yard waste) and one part nitrogen (things like fresh cut greens, manure from herbivore and vegetarian farm animals, and excess food waste or even animal food waste, as long as it's free of meats and dairy). You already have most, if not all of these components around your farm! And once your compost pile is started, you'll just need occasional watering and turning of your pile to create perfect nutrient matter. We've put together a Methods of Composting fact sheet that can help you decide which option will work best on your farm!

3. Save on fertilisers

If you could grow money on trees would you? We would too! That's exactly what composting does. It's taking organic waste that you already have and turning it into fertilisers, which you need. Composting is finding a valuable use for something you were sending to the

landfill; that makes cents! It can save farmers from purchasing expensive chemical fertilisers and disrupting the soil's organic makeup. Purchase or create? The choice is up to you.

Compost has multiple benefits for farmer's soil.

4. Improve the structure of your soil

Clumpy, dry growing soil is as useless for growing as eating soup with a fork but compost can help you restore the valuable structure to your growing soil. It enhances your soil's structure which supports plant's roots and prevents erosion. Creating this strong soil composition will allow for better drainage and water retention during our classic midwest summer storms.

5. Enhance soil quality and nutrients

As you know, healthy soil produces healthy plants. Trent explains that "fertilisers feed the plants but compost feeds the soil" which is important if you want long-lasting nutrients. Compost contains countless beneficial microorganisms that help restore soil nutrients and encourage growing.

Composting is a great environmental and economical alternative to sending food and other farm waste to the landfill. Choosing the best method and expanding your knowledge can enhance your compost's efficiency.



The importance of Soil Testing

SOIL test may refer to one or more of a wide variety of soil analysis conducted for one of several possible reasons. Possibly the most widely conducted soil tests are those done to estimate the plant-available concentrations of plant nutrients, in order to determine fertiliser recommendations in agriculture. Other soil tests may be done for engineering (geotechnical), geochemical or ecological investigations.

Plant nutrition

In agriculture, a soil test commonly refers to the analysis of a soil sample to determine nutrient content, composition, and other characteristics such as the acidity or pH level. A soil test can determine fertility, or the expected growth potential of the soil which indicates nutrient deficiencies, potential toxicities from excessive fertility and inhibitions from the presence of non-essential trace minerals. The test is used to mimic the function of roots to assimilate minerals. The expected rate of growth is modeled by the Law of the Maximum.

Labs recommend that a soil test contains 10-20 sample points for every 40 acres (160 000 m²) of field. Tap water or chemicals can change the composition of the soil, and may need to be tested separately. As soil nutrients vary with depth and soil components change with time, the depth and timing of a sample may also affect results.

Composite sampling can be performed by combining soil from several locations prior to analysis. This is a common pro-

cedure, but should be used judiciously to avoid skewing results. This procedure must be done so that government sampling requirements are met. A reference map should be created to record the location and quantity of field samples in order to properly interpret test results.

Geographic distribution of samples for precision agriculture

In precision agriculture, soil samples may be geolocated using GPS technology in order to estimate the geospatial distribution of nutrients in the sampled area. The geolocated samples are collected using a distribution and resolution that allows for the estimation of the geospatial variability of the soil area where the crop will be grown. Many different distributions and resolutions are used, depending upon many factors including the goals of the geospatial nutrient analysis and cost of sample collection and analysis.

Storage, handling, and moving

Soil chemistry changes over time, as biological and which chemical processes break down or combine compounds over time. These processes change once the

soil is removed from its natural ecosystem (flora and fauna that penetrate the sampled area) and environment (temperature, moisture, and solar light/radi-



changes in the soil can be slowed during storage and transportation by freezing it. Air drying can also preserve the soil sample for many months.

Soil testing

Soil testing is often performed by commercial labs that offer a variety of tests, targeting groups of compounds and minerals. The advantages associated with local lab is that they are familiar with the chemistry of the soil in the area where the sample was taken. This enables technicians to recommend the tests that are most likely to reveal useful information.

Soil testing in progress

Laboratory tests often check for plant nutrients in three categories:

Major nutrients: nitrogen (N), phosphorus (P), and potassium (K)

Secondary nutrients: sulfur, calcium, magnesium

Minor nutrients: iron, manganese, copper, zinc, boron, molybdenum, chlorine

The amount of plant available soil phosphorus is most often measured with a chemical extraction method, and different countries have different standard methods. Just in Europe, more than 10 different soil P tests are currently in use and the results from these tests are not directly comparable with each other.[4]

Do-it-yourself kits usually only test for

the three "major nutrients", and for soil acidity or pH level. Do-it-yourself kits are often sold at farming cooperatives, university labs, private labs, and some hardware and gardening stores. Electrical meters that measure pH, water content, and sometimes nutrient content of the soil are also available at many hardware stores. Laboratory tests are more accurate than tests with do-it-yourself kits and electrical meters.

Soil testing is used to facilitate fertilizer composition and dosage selection for land employed in both agricultural and horticultural industries.

Prepaid mail-in kits for soil and ground water testing are available to facilitate the packaging and delivery of samples to a laboratory. Similarly, in 2004, laboratories began providing fertilizer recommendations along with the soil composition report.

Lab tests are more accurate and often utilise very precise flow injection technology (or Near InfraRed (NIR) scanning). In addition, lab tests frequently include professional interpretation of results and recommendations.

Always refer to all proviso statements included in a lab report as they may outline any anomalies, exceptions, and shortcomings in the sampling and/or analytical process/results.

Some laboratories analyse for all 13 mineral nutrients and a dozen non-essential, potentially toxic minerals utilising the "universal soil extractant" (ammonium bicarbonate DTPA).

Tips on coffee farming

THE coffee plant is an attractive little specimen with glossy green leaves and a compact growth habit. It makes a surprisingly good potted indoor plant. Native to Ethiopia, the coffee plant (*Coffea arabica*) will flower in the spring with small white flowers and then bear half-inch berries that gradually darken from green to blackish pods. Each of these fruits contains two seeds, which eventually become the coffee beans you use to brew coffee. Other than the seeds, it's important to know that all plant parts are toxic to both humans and animals.

In their native habitat, coffee plants grow into medium-sized trees. But growers regularly prune the plants to be a more manageable size, especially when the plants are grown indoors. (Note that you can't grow coffee plants from the beans you buy in a store; those have been treated and roasted and will not sprout.) Even though coffee plants are vigorous growers, it will typically take a few years before your plant produces flowers and subsequent fruits. All parts of the plant are toxic to pets and humans—the beans are edible to humans.

Coffee Plant Care

The best environment in which to grow coffee plants is to mimic its natural conditions found on a tropical, mid-elevation mountainside: plenty of water with good drainage, high humidity, relatively cool temperatures, and rich, slightly acidic soil.

You can grow coffee plants outdoors if the conditions are similar to their natural environment. Indoors, coffee plants do best placed near a window but not in direct sunlight. Make sure to keep the plant away from drafts, such as those produced from air conditioning. Be prepared to water at least weekly to keep the soil moist.

Light

Coffee plants prefer dappled sunlight or full sunlight in weaker latitudes. They are actually understory plants (existing under the forest canopy) and do not thrive in direct, harsh sunlight. Coffee plants that are exposed to too much direct sunlight will develop leaf browning.

Soil

Plant coffee plants in a rich, peat-based potting soil with excellent drainage. Coffee plants prefer acidic soil, so if your plant is not thriving add organic matter such as sphagnum peat moss to increase soil pH. The ideal pH range is closer to 6 to 6.5.

Water

These plants are water lovers and require both regular and ample watering. The soil should stay evenly moist but not waterlogged. Never allow the soil to dry out completely.



In addition, because these plants naturally grow on the sides of tropical mountains, they thrive in highly humid conditions which usually receive plenty of rain and fog. A humidity level of 50 percent or higher should suffice. If the air is too dry, the leaf edges might start to brown. Mist the plant daily to raise the humidity level.

Fertiliser

Feed with a weak liquid fertilizer throughout the growing season every couple of weeks. Cut the fertiliser back to once a month or so in the winter.

Types of Coffee Plant

***Coffea arabica* 'Nana':** This is a dwarf variety that only grows 12-inches tall, making it ideal to cultivate indoors.

***Coffea canephora*:** Commonly known as robusta coffee, this species comes from sub-Saharan Africa. Its plants are robust; however, the coffee beans are less favored because they tend to have a stronger, harsher taste than arabica beans.

***Coffea liberica*:** A variety native

to central and western Africa, it was first discovered in Liberia. It produces large fruits with a higher caffeine content than arabica beans, but lower than robusta beans.

Pruning

Coffee plant needs little pruning, but should be cut back in the spring with clean, sharp gardening shears. This will help shape your plant, and it will grow back bushier!

Propagating Coffee Plants

To propagate coffee plant, you can do so from cuttings or air layers (a somewhat involved technique where you root branches still attached to the parent plant). The best time to take a cutting is in the early summer.

Select a straight shoot that's about 8 to 10 inches long and remove all but a pair of upper leaves.

Then, plant the cutting in a small pot of soilless potting mix, and keep the soil slightly moist.

When you can gently tug on the plant and feel resistance, you'll know roots have formed.

How to Grow Coffee Plant From Seed

While you can't germinate the coffee beans you buy in a store, you can sprout the ones that grow on your coffee plant. Called "cherries," rub away their flesh wash away any residue; dry thoroughly by sitting in the open air for a few weeks. Then, soak the cherries in water for 24 hours, and then sow in damp, but well-draining, sand. If you water daily, the cherries should germinate in two to four months. When they've germinated, carefully remove them and plant each one in well-draining, acidic soil. Water twice a week.

Potting and Repotting Coffee Plant

Repot your coffee plant every spring, gradually stepping up the pot size. Make sure the container has several drainage holes. If you want, you can prune the plant to the desired size, slightly restrict its pot size, and root prune to keep its growth manageable.

Common Pests & Plant Diseases

Coffee plants grown indoors will sometimes suffer from infestations of mealybugs, aphids, and mites.³ Signs of infestation include tiny webs, clumps of white powdery residue, or visible insects on the plant. Treat infestations with insecticides, or something organic like neem oil, as soon as possible to prevent them from spreading to the rest of your collection.

How to Get Coffee Plant to Bloom

Coffee plants bloom delicate, white flowers, once the plant is around three-years-old. If these blooms are pollinated — if your coffee plant is outdoors — the flowers will give way to little, red fruit (the "cherries") that are slightly soft to the touch.

To get your own coffee plant to bloom, make sure it's at the right temperature, has four to five hours of sunlight a day, and is growing in damp, well-draining soil.

Common Problems With Coffee Plant

Brown spots on leaves

Fungal diseases like leaf spot can give your coffee plant brown spots on its leaves. To remedy, remove affected leaves and stems and trim away inner branches so there is better air circulation for your plant.

Brown leaves that fall off

Leaves that turn brown and fall off usually do so from leaf scorch (otherwise known as "too much sun"). Fixing the former is merely a matter of giving your coffee plant more indirect light.

Is coffee plant easy to care for?

Yes! Coffee plant is a super easy plant to grow. With the right light, water, and humidity, it's a welcome addition to your home.

How fast does coffee plant grow?

Coffee plant takes three to five years to reach maturity.

Can coffee plant grow indoors?

Absolutely! While when planted outdoors a coffee plant can reach 6-feet tall, most indoor growers prune them so they stay within a manageable size of 1 to 2 feet.

Why Do Small Farms Need Manure Storage?

ACCUMULATED manure can cause health, odor, pest, and water quality problems if not properly managed. One option is to collect the waste daily, load it in a spreader, and spread it on cropland, hayland, or pasture (often referred to as a “daily haul” system). This is time consuming and also has to be done regardless of the soil moisture, weather, or time of year. Spreading during rain, on saturated or frozen soils can cause compaction or lead to off-site runoff of manure. Growing crops can also be damaged during spreading.

The alternative to daily spreading is to stockpile or store the manure for a period of time, at which point it may be spread or hauled away and utilized beneficially elsewhere. Even though the number of livestock on your farm may not be large, enough manure will be generated to pose a problem if planning is not done.

Example: A single horse can produce 50 pounds of manure per day which translates to 11 cubic yards and 9 tons annually. The manure and bedding produced by this horse in a year can exceed 25 cubic yards. This would require a storage area of about 12 feet by 12 feet with an accumulated depth of 3 to 5 feet for one year of storage, depending how much decomposition and compaction of the manure takes place.

Principles of Manure Storage

Regardless of the type or size of manure storage, there are a few basic principles to always follow:

Keep the clean water clean. Any up-slope surface run-on should be diverted around the manure storage or animal lots by creating a small berm. Rooftop water can be directed via gutters, downspouts and possibly underground outlets so that it goes around animal lots and manure storage.

Treat the dirty water. Any rainfall landing on the manure pile or the livestock concentration areas should (preferably) be retained in the structure or settling basin. Over time, the water evaporates, leaving behind the solid materials to be collected and spread on fields. The liquid can also be directed to a treatment area, such as a well vegetated filter strip. The plants will slow the flow, settling solids (filtering the runoff) and utilizing the nutrients as they grow. This option requires regular management as the liquid flow may eventually cut a channel and create an unobstructed path to creeks, streams, ponds or other clean water. The solids from the manure may also accumulate and smother the vegetation. The goal is to direct the drainage over the vegetated area as evenly (like a sheet) as possible and regularly harvest the vegetation as hay or silage to remove prevent build up of nutrients.

Avoid flood-prone areas. Flood waters that can reach a manure storage location will transport manure downstream and cause extensive water quality problems.

Accessibility. Store the manure where it is easily accessible to load and unload. Efficiency is impor-

tant in order to properly manage the manure facility. Make sure you can access the site in all types of weather conditions. If it is difficult to access the site, you are less likely to regularly manage or maintain it.

Avoid steep slopes when siting your storage location. The steeper the slope, the more difficult it is to manage the storage area, and the greater potential for offsite runoff. It may be necessary to build a small dirt berm (do not use storm water from leaving the area and running downslope).

If you spread the stored manure on your own land, do so following a nutrient management plan that establishes the spreading rate per acre to match the nutrients available in the manure to the needs of the crop.

Manure Storage Considerations

Storage can be very simple or quite complex; very inexpensive or quite pricey. The choice depends on a number of factors.

Storage siting

The first thing to decide when contemplating storage is the location. The spot has to be very convenient to the animal housing, but there is more to consider. The storage must be located well outside of any stream floodplain, and should have a slight slope for drainage, but not slope so much that runoff can cause problems. It is important to prevent manure from being washed offsite to streams or lakes. Manure contains potential pollutants when it is not managed correctly. The bacteria, phosphorus, nitrogen, and organic matter pose risks to aquatic organisms and humans.

Odor management is another consideration when siting a storage facility. Look at wind direction as relates to dwellings. The final consideration is aesthetics. If possible, keep the facility out of view of neighbors and passers-by. Sometimes a screen of trees and shrubs can help, and also may reduce odor.

Storage sizing

The sizing of a storage facility depends upon three factors: How many animals are on the farm, and how much of the manure is collected?

What is the time period the storage will be accumulating manure before emptying?

How much money is available for building the facility?

From the weights and volume cited above for a single horse, it is easy to see how a storage facility can get large quickly, with just a few animals. Also consider that the ideal length of time permanent storage should have capacity for is six months; the minimum should be 3 months.

Options for Manure Storage Stockpiling

Cost: Low
Stockpiling of manure is just what it sounds like-

simply taking the solid manure and soiled livestock bedding and piling it up in a convenient location. This primitive method can be acceptable for the farm with just 1 or 2 horses or several sheep. However, the spot must be compacted and sealed so that rainfall landing on the pile cannot leach pollutants into the soil and ground water. Sometimes gravel in a packed pad works well, or stone dust is used. The area approaching the pad needs to be firm also to prevent rutting in wet periods. Also, the pile should have a very slight slope (1-3%) to facilitate drainage to a vegetated filter strip.

A stockpile can be covered with a plastic tarp to reduce odors, flies, and leaching concerns. Rainfall will run off to the edges and never penetrate the pile. The tarp will need to be anchored securely all around the edges. A filter strip of vegetation or (preferably) a small dirt berm is still needed on the downslope side.

Dry Stack

Cost: Moderate

This is probably the most common and practical choice for the small livestock operation. A dry stack facility has three walls to contain the manure. The best ones have a poured concrete floor. The floor is slightly sloped for drainage out of the facility, and the drainage runs to an adjacent vegetative filter strip. The walls of a dry stack facility will be a minimum of four feet high.

The

of nitrogen, carbon, oxygen, and liquid. When things are running properly, the center of the pile will reach 140 degrees, which kills pathogens and renders a relatively stable product. An unintended decomposing pile has a nearly anaerobic core that produces objectionable odors when broken into. Although the center is often hot, it's not hot enough to sanitise. Composting requires taking the pile's temperature, and turning of the pile regularly to mix and aerate. Sometimes it will need water; other times it will need to be covered so it does not become saturated and lower the oxygen level to unacceptable levels.

Turning the pile is usually done with a small tractor

equipped with a front bucket loader. There are many ways to set up the composting site. It could just be several long windrows, 4 – 6 feet high, on compacted ground or compacted gravel, or concrete. Or, there may be several small dry stack-type bays connected together side by side, and the manure is moved from one bay to the next, and the manure is mixed and aerated in the process. Manure and bedding, when properly mixed, can be transformed into compost in as little as six weeks.

Liquid Storage

Cost: Highest

Liquid storage is used by many larger dairy or swine farms. The waste is diluted with stall wash water and pumped to a lagoon or other holding location. From there the liquid effluent and the solids are pumped into an injector tank and spread in the field as a slurry, either sprayed on the surface or injected into the soil. Or, the effluent is spray irrigated and the solids are separated and spread in a conventional fashion. This type of storage and management system is usually the most complex and expensive, and is usually not practical for smaller livestock operations.

Hauling Away

Sometimes, the best solution is to simply have a dumpster or some other form of semi portable holding structure, and place the manure in there. When needed, a waste management purveyor can pick it up for beneficial re-use on cropland that can use the organic matter and nutrients. Remember to still have a vegetative filter strip to treat the leachate draining from the dumpster as it drains away.

If the amount of manure being generated daily is small enough, a small manure spreader can serve as the storage device. When full, simply hook up the tractor and spread the waste in the cropland or hayland according to a nutrient management plan. Caution, though — if applying to pastureland, it is important to spread the manure about four weeks before a grazing cycle. Smothering of grasses can occur if the manure is applied too heavily. Parasite eggs in raw manure may cause an infestation problem on pastures.

Vegetated Filter Strip

It is crucial to have a vegetated filter strip to treat the runoff water coming from a manure pile or a concentrated livestock area. The combination of grass uptake, soil filtering and adsorption, and biological processes in the top inches of soil significantly reduces pollution potential of manure runoff. The filter should be established in a vigorous, thick stand of grasses adapted to the soil conditions at the site. Animals should be kept off of it, and it should be hayed at least twice a year to remove nutrients and encourage growth. On a flatter slope, the strip should be a minimum of 30 feet wide, wider if slope is steeper.

A better option than a vegetative filter strip is a Vegetative Treatment System.

Managing Stockpiled Dry Manure on Small Farms

Flies and odors from stored manure can be reduced if good management is practiced.

Keep the manure as dry as possible.

Remove manure from the farm regularly during fly breeding season.

Try not to use insecticides or larvacides; naturally occurring fly predators- tiny, non-stinging wasps and parasites, are beneficial to the pile.

Wasps are active during fly season and their activity is better in dry manure.

When cleaning out the storage, leave a couple of inches of dry manure over the bottom of the storage area to provide a population of fly parasites and predators. Manure removal can be staggered to leave one section per week to supply fly predators and parasites.

Remove a winter's stockpile of manure during cold weather before fly breeding season.

Barnyard and Corral Management

Manure should not only be removed from stalls and barns, but corrals, barnyard areas, and sacrifice areas should be regularly cleaned to reduce flies, odor, and the potential for mud.

A box scraper, skid loader, or tractor and loader can be used to remove manure built up on the surface of these areas.

Storing manure on small farms



An example of composting horse manure



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What are the benefits of garlic?

GARLIC (*Allium sativum*), is used widely as a flavoring in cooking, but it has also been used as a medicine throughout ancient and modern history; it has been taken to prevent and treat a wide range of conditions and diseases.

Garlic belongs to the genus *Allium* and is closely related to the onion, rakkyo (an onion found in Asia), scallion, chive, leek, and shallot. It has been used by humans for thousands of years and was used in Ancient Egypt for both culinary purposes and its health and therapeutic benefits.

This article will look at the potential health benefits of garlic and cover any research that supports the claims.

Fast facts on garlic

- In many countries, garlic has been used medicinally for centuries.
- Garlic may have a range of health benefits, both raw and cooked.
- It may have significant antibiotic properties.

History

Share on Pinterest There are many medicinal claims about garlic.

Garlic has been used all over the world for thousands of years. Records indicate that garlic was in use when the Giza pyramids were built, about 5,000 years ago.

Richard S. Rivlin wrote in the *Journal of Nutrition* that the ancient Greek physician Hippocrates (circa. 460-370 BC), known today as “the father of Western medicine,” prescribed garlic for a wide range of conditions and illnesses. Hippocrates promoted the use of garlic for treating respiratory problems, parasites, poor digestion, and fatigue.

The original Olympic athletes in Ancient Greece were given garlic – possibly the earliest example of “performance enhancing” agents used in sports.

From Ancient Egypt, garlic spread to the advanced ancient civilisations of the Indus Valley (Pakistan and western India today). From there, it made its way to China.

According to experts at Kew Gardens, England’s royal botanical center of excellence, the people of ancient India valued the therapeutic properties of garlic and also thought it to be an aphrodisiac. The upper classes avoided garlic because they despised its strong odor, while monks, “...widows, adolescents, and those who had taken up a vow or were fasting, could not eat garlic because of its stimulant quality.”

Throughout history in the Middle East, East Asia, and Nepal, garlic has been used to treat bronchitis, hypertension (high blood pressure), TB (tuberculosis), liver disorders, dysentery, flatulence, colic, intestinal worms, rheumatism, diabetes, and fevers.

The French, Spanish, and Portuguese introduced garlic to the New World.

Uses

Currently, garlic is widely used for several conditions linked to the blood system and heart, including atherosclerosis (hardening of the arteries), high cholesterol, heart attack, coronary heart disease, and hypertension.

Garlic is also used today by some people for the prevention of lung cancer, prostate cancer, breast cancer, stomach cancer, rectal cancer, and colon cancer.

It is important to add that only some of these uses are backed by research.

A study published in the journal *Food and Chemical Toxicology* warned that short-term heating reduces the anti-inflammatory effects of fresh raw garlic extracts. This may be a problem for some people who do not like or cannot tolerate the taste and/or odor of fresh garlic.

BENEFITS OF GARLIC

- Regulates blood pressure and sugar
- Strengthens immune system
- Prevents heart disease
- Detoxification
- Anti-inflammatory
- Prevents and treats cold
- Improves bone health
- Lowers cholesterol
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The tobacco industry has been experiencing challenges with fly-by-night contractors who underfund farmers yet overcharge inputs

TIMB shuts the door on fly-by-night growers

Staff Reporter

THE Tobacco Industry and Marketing Board (TIMB) has confirmed a 19 percent drop in the number of registered growers for the 2021/22 season from 144 462 during the corresponding period last season to the current 121 143.

TIMB public affairs officer Ms Chelesani Moyo said only 575 debutante growers had also registered marking a 198 percent decline from the 1 715 new growers who had registered at the same time last year adding that the board had tightened processes to ensure only genuine farmers registered to grow tobacco.

“We have tightened our vetting and verification processes for farmer registration and grower number renewal. Many farmers have been tried and have fallen short along the way; that is why we have less registered farmers. We place more pride in having fewer but legitimate tobacco growers whom we know will diligently follow all tobacco production processes and produce tobacco in quality ranges 1-3 by 2025.

“TIMB treasures quality farmers over quantity therefore we will continually improve our processes to retain genuine and legitimate farmers only,” she said.

Farmers on the one hand have blamed the decline in the numbers of growers on various challenges being faced by the tobacco industry.

Tobacco Association of Zimbabwe president, Mr

George Seremwe said the decline in the registrations was because some farmers had made losses last season, which left them in debt, disgruntled and no longer interested in producing the golden leaf.

“There were too many cartels on one cake in the industry last season. Surrogate contractors short-changed the farmers. We cannot have tobacco farmers still waiting for their payments from last season and still expect them to grow the crop.

“The payment system in both foreign currency and RTGS is one of the reasons tobacco farming is no longer as profitable. If Government does not intervene, we will see a further decline next season or even total collapse of the tobacco industry,” he said.

There have also been rampant reports of middlemen buying tobacco from farmers for resale at the auction floors.

The said buyers have reportedly been fleecing farmers by offering unviable prices when they would make the profits after selling the tobacco at the auction floors.

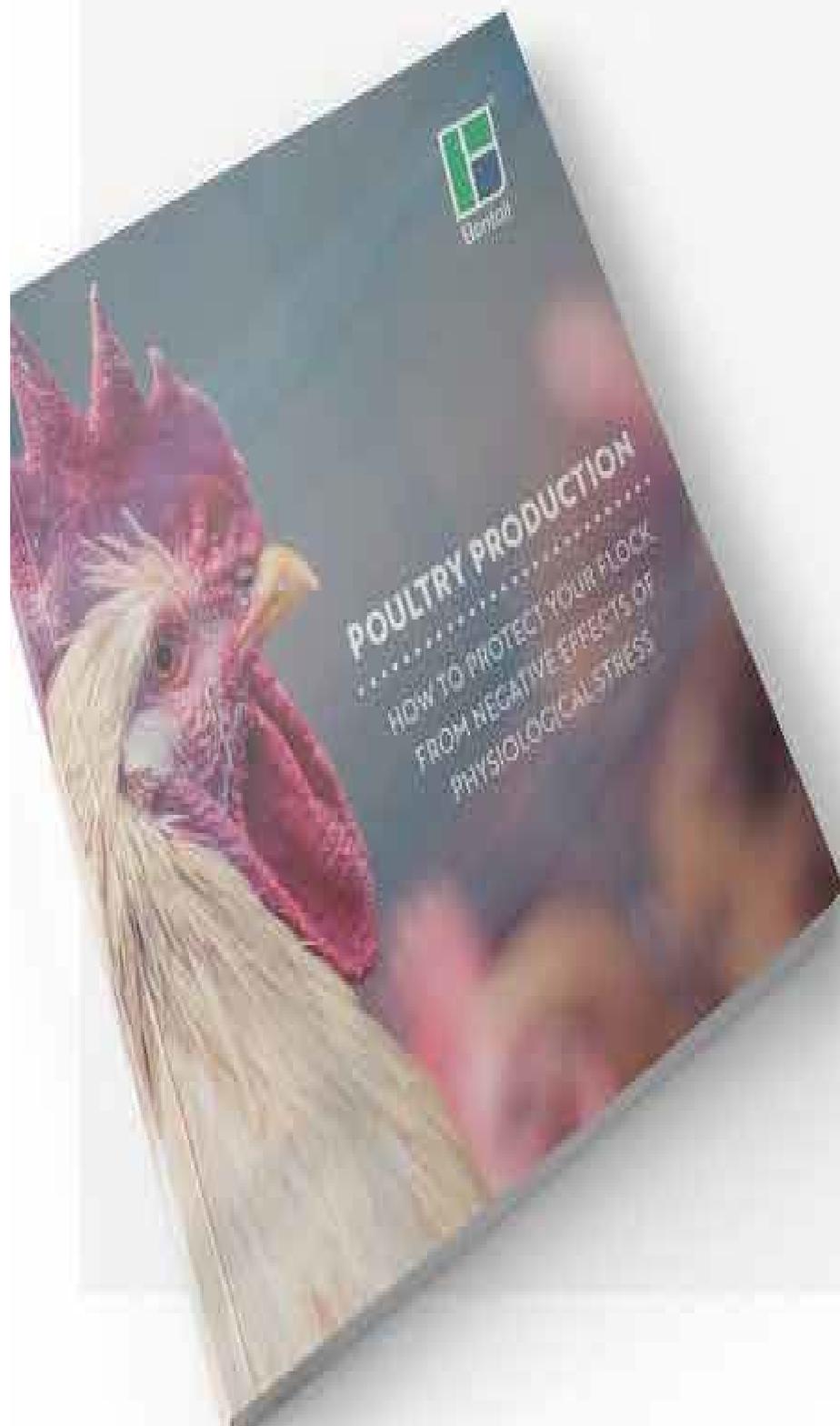
The tobacco industry has also been experiencing challenges with fly-by-night contractors who underfund and overcharge inputs.

In response to the scourge, TIMB had to come up with regulations to safeguard the integrity of the contract system to ensure tobacco growers would not be short changed with contractors guaranteed of their returns as well.



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