NOW PUBLISHED FOR MORE THAN 25 YEARS!

NUFARMER Africa

JANUARY/FEBRUARY 2023
Electronic subscription now available: See inside back page

Serving Africa since 1996 – Recipient of the Africa Agriculture Economic Developer Award – Vol 27 no 1

STOCKFARMING trends

PLANT the right type of seed

GROWING your sheep herd

SRAY CLINICS held

LANDBOU radio

GERDA LE ROUX | 074 465 0684

GESELS SAAM:

SOUNDCLOUD LandbouRadio

@LandbouRadio1

@LandbouRadio

landbouradiog@gmail.com

NUFARMER AFRICA CONTACT DETAILS:

Editor:
Johan Swiegers
Cell: 082 882 7023
Email: editors@axxess.co.za

Advertising inquiries and accounts:
Marion Oosthuizen
Cell: 071 639 9300
Email: management@axxess.co.za

D.T.P:
Yolandé van Zyl
Cell: 082 775 1002

SUBSCRIBE NOW!!!

Receive this valuable publication electronically that has been serving smallholder and commercial farmers for 25 years.

NURFARMER AFRICA is moving with the times! If you have a computer, tablet or smart phone with internet or have access to a friend's;

SUBSCRIBE NOW TO RECEIVE AN ELECTRONIC COPY - see page 19

SCRIPTURE FOR A FARMER'S NEW YEAR

"A Farmer went out to sew his seed. As he was scattering the seed some fell along the path, and the birds came and ate it up. Some fell on rocky places where there was not much soil. It sprang up quickly because the soil was shallow. But when the sun came up, the plants were scorched, and they withered because they had no roots. Other seed fell among the thorns, which grew up and choked the plants. Still, other seed fell on good soil, where it produced a crop; a hundred, sixty or thirty times what was sown. Whoever has ears, let them hear! **Matthew 13 Vss 1-9**

NUFARMER Africa

Contents

04 Stockfarming trends: FMD, Covid recovery and the marbling index

06 Sparkle RZ F1: The new innovation frontier in Rocket

08 Plant the right type of seed to increase animal production

09 The Apimondia Africa 2023 symposium a must for all bee farmers!

10 Rethinking food systems for South Africa

11 2022 ARC National Master Dairyman awards announced

12 Growing your sheep herd: Oestrus synchronization and mating systems in sheep

14 SA's progress broken by water mismanagement, low recycling and alcohol abuse

15 Five ways to compost food waste for soil health

16 Young female farmers celebrates graduation

17 Integrated food production initiatives in Limpopo province

18 Spray clinics deal with poor application of Agrochemicals

Cover pic: Stockfarming trends: FMD, Covid recovery and the marbling index (see page 4 and 5)

08

12

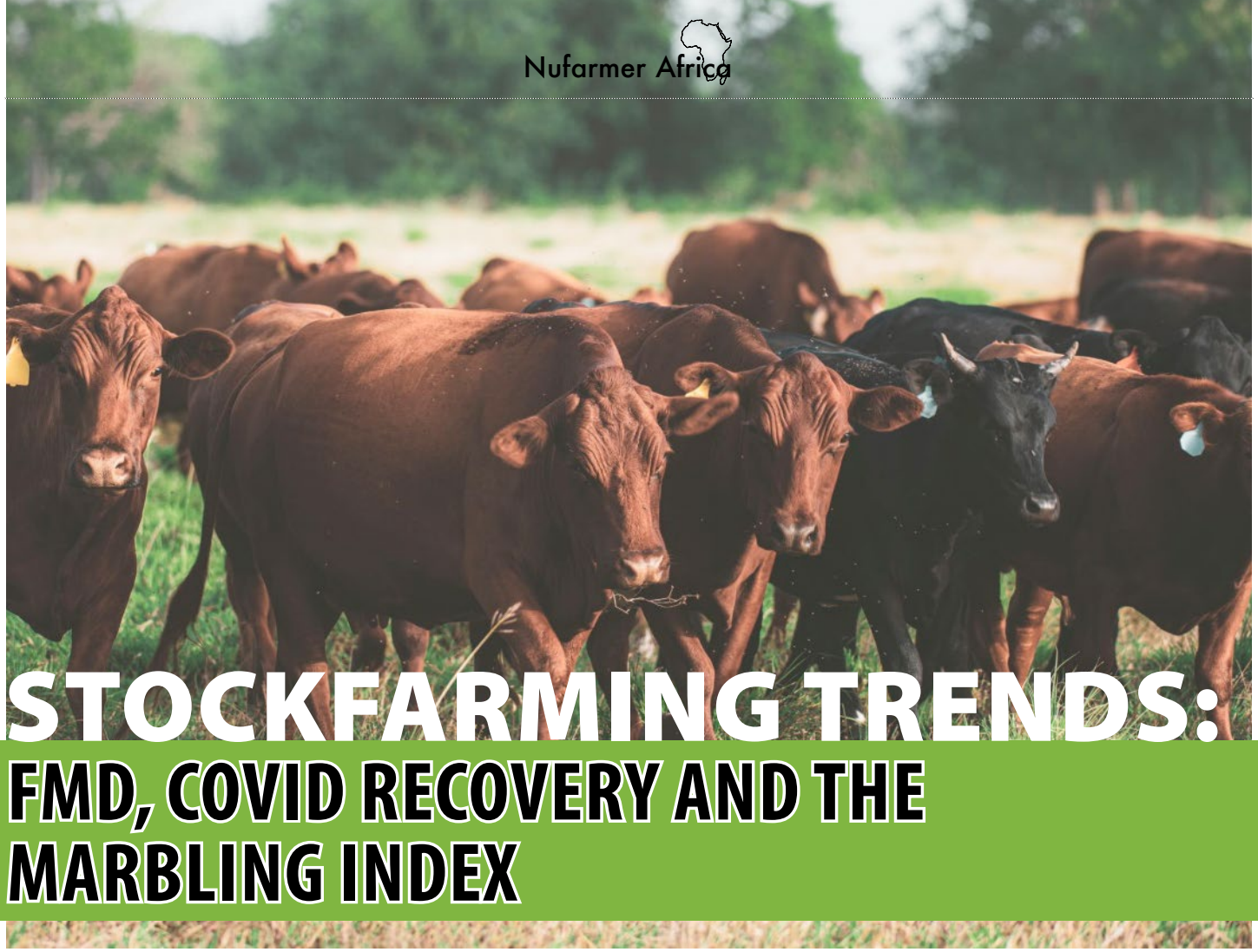
18

GET YOUR NUFARMER AFRICA PERSONAL COPY DELIVERED ON YOUR SMART PHONE BI-MONTHLY! READ FULL DETAILS ON PAGE 19 AND SUBSCRIBE NOW!

NUFARMER AFRICA DISCLAIMER:
Nufarmer Africa accepts no responsibility for claims made in advertisements or for opinions and recommendations expressed by individuals or any other body or organisation in articles published in Nufarmer Africa. Copyright is reserved and the content may only be reproduced with the consent of the Editor by editors@axxess.co.za

FROM NUFARMER'S PEN

The year started with abundant rains which really continued since late last year. But now a larger area is covered, albeit with severe storms and losses of homes, livestock, crops and lives in some areas. It seems this is a world-wide situation at the moment but, as we are in the beginning of a new year, let us look at positive outcomes and positive actions we as farmers and agriculturists can put in place to overcome the obstacles we, and more so our customers, the consumers of meat and fresh products and retailers can put in place. The electricity debacle really is one of the obstacles that affects all and sundry (or does it?). Pumps, packhouses and refrigeration all are under pressure because of an even flow of supply of electricity. The enormous costs to install any of the different 'solution' systems, whether it be solar, wind turbine or compressor, adds to the basic cost of the foodstuffs produced. On top of this comes insurance, technical support and service over and above annual services or even replacement! Let me try to be positive; Our crops generally looks good, outlook on beef and sheep farming looks good, if we can collectively work on government to re-instate services at harbours and air-freight, our exports can once more rise. At street level, consumers are perplexed about many well-known stores with shelves containing really poor quality greens and sometimes meat packages, but all these at much inflated prices. The farmer, amidst all former mentioned obstacles and more, receive less for his produce per item, is curbed by inflated input costs while retailers slap on mark-ups because of unsold perishables that are ditched and, I am convinced, fewer sales. Answer; Be alert to smaller markets, direct to public sales, maintain good service and keep up your quality! Best for 2023.



STOCKFARMING TRENDS: FMD, COVID RECOVERY AND THE MARBLING INDEX

According to Greg Talbot of Taltec, a major concern for stock farmers this year is foot-and-mouth disease (FMD), which again hit during 2022 in six of South Africa's nine provinces, causing a ban on all cattle movement for several weeks.

"The Kruger National Park and Northern KwaZulu-Natal are considered to be infected zones. These areas are surrounded by a protection zone or curtain, in which all cloven-hooved animals are supposed to be vaccinated against the foot-and-mouth virus, according to Talbot.

FMD is an extremely contagious disease, which affects cloven-hoofed animals including cattle, sheep, goats, pigs and game, which are carriers in areas such as the Kruger Park. "Infection is spread by close or direct contact with other infected animals, or when healthy animals trample across infected areas," Talbot continues.

"The disease doesn't kill, but it causes blisters and ulcers on the animals, typically around the mouth, feet and teats. This discomfort stops animals from feeding, reducing meat and milk yields and, for sheep, impacting the quality of their wool.

"In the past the South African government has played a much bigger role in trying to combat this disease, by clamping down on animals movement, for example," Talbot explained and continued: "In principle, all infected animals should be isolated and the herd needs to be regularly sprayed and monitored. But it is increasingly being left up to individual stock farmers to take on the responsibility for the biosecurity of their farms."

>>> page 5

Improve your knowledge of farming – Subscribe to Nufarmer Africa now and obtain your bi-monthly copy on your smart phone or tablet – See P19

In addition, stock farmers should start to control the traffic coming onto their farms, including any wild animal movement.

The virus is also spread as animals walk through manure and it can survive for up to three days. Infected dung can be carried for many kilometres on the wheels of a vehicle too, so farmers need to get used to spaying down their vehicles before entering their pastures.

Biosecurity has to be taken a lot more seriously because every breach has the potential to seriously harm the productivity of many surrounding farms.

"South African farmers have now recovered their stock levels following their drought losses (pre-Covid) and are now experiencing very good rains, which is always good for the condition of the land and the animals feeding off it. On the downside, though, talk is of an economy in recession, which is going to impact the buying power of the consumer, which may have a negative effect on farmers' profitability," Talbot mentioned.

It is expected that a good year of farming may be followed by weak year of selling animals. The prediction by the stock industry is that the high prices following Covid should start to come down, which will take some of the pressure off the higher prices for consumers and boost meat product sales.

The stock farming industry is also looking forward to the implementation of a better meat quality classification. "Meat is traditionally graded according to age and the amount of visible fat, but there has never been a tenderness grade.

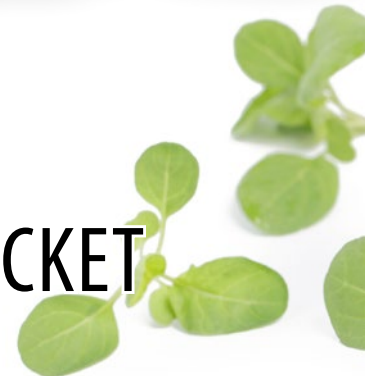
There are now some good results, though, based on using a marbling index to grade tenderness, with the measured percentage of intramuscular fat being used extract a marbling index" Talbot said.

The index is being pushed from the higher-quality meat producers as a way of differentiating their product pricing and better protecting their niche markets. It should bring tender and healthy meat cuts similar to Wagyu beef to the South African market, which are sure to be as popular and as sought after.

By G Talbot

SPARKLE RZ F1

THE NEW INNOVATION FRONTIER IN ROCKET



Sparkle RZ is the new innovation frontier in rocket and our first Rocketeerz variety. Our Rocketeerz line stands for continuous innovations in rocket - to make your business sparkle!

Continuous innovation is becoming increasingly crucial to sustain profitable growth. To support your business development, Rijk Zwaan is now introducing a unique rocket variety – Sparkle RZ. Sparkle RZ combines an attractive round leaf shape with an excellent rocket taste. This novel variety offers new opportunities both as a mono-leaf product and in leaf mixtures. Research has shown that a round leaf shape with a vibrant green colour is highly attractive to consumers, especially when it is combined with the popular rocket taste.

EXCELLENT CHARACTERISTICS - FROM FIELD TO FORK -

Besides its unique look and excellent flavour, Sparkle RZ also offers good growing characteristics, an outstanding shelf life and the possibilities for year-round production and supply.

ADVANTAGES DURING CULTIVATION

- Thick leaves with a high yield
- Stable growth characteristics regardless of the growing conditions
- High germination and vigour, even in cold conditions
- Flexibility in terms of leaf size (harvestable from 6cm to 15cm with good quality)

ADVANTAGES IN THE CHAIN

- Unique and attractive leaf shape
- Excellent taste
- Very good shelf life, suitable for countries with long transport times
- Suitable for year-round production

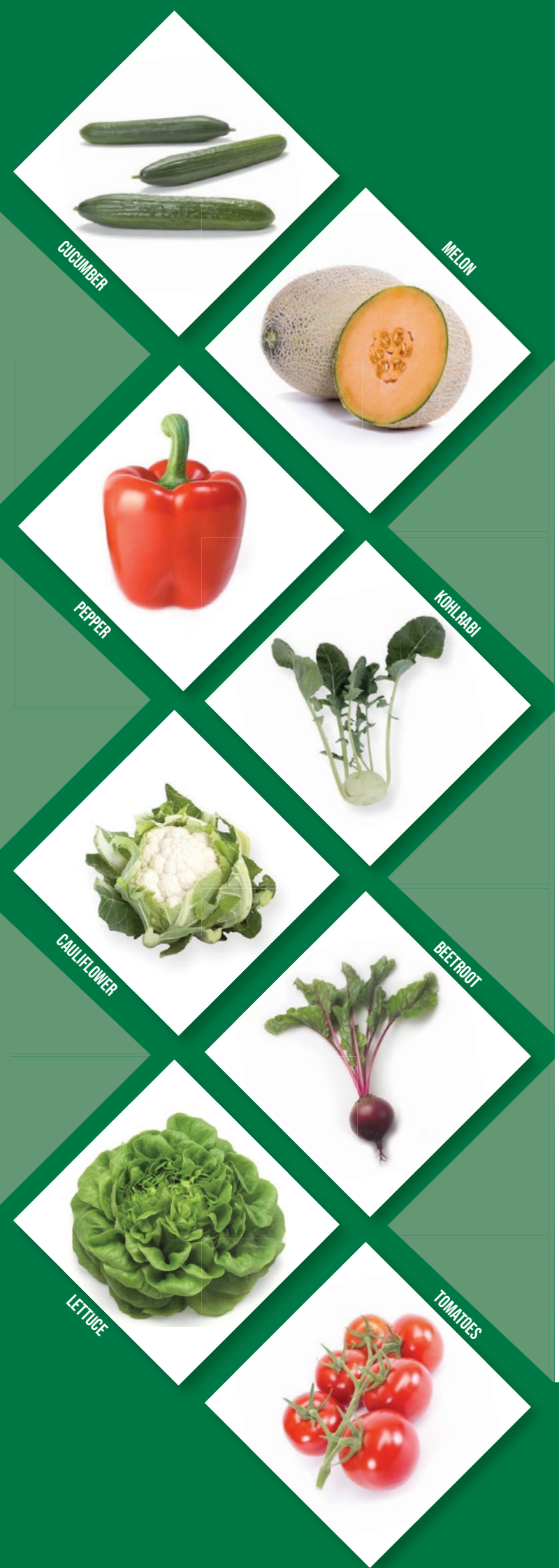
INTERESTED?

If you are interested in growing your business with Sparkle RZ, please contact your local representative for specific advice.

www.rijkzwaan.co.za

RIJK ZWAAN

Sharing a healthy future



RIJK ZWAAN

Sharing a healthy future

FIND YOUR VARIETY

Rijk Zwaan offers a wide range of high-quality vegetable varieties. We select and test them thoroughly to ensure their suitability for growing in South African conditions. In addition to the seeds themselves, we also provide reliable information about the performance of our varieties and expert cultivation advice from our crop specialists. This ensures the grower has the best start to a successful harvest.

36 Steyn Road, Rietvallei Farm Krugersdorp 1739
South Africa | Postal address P.O. Box 2259,
Ruimsig Krugersdorp 1732 South Africa
Tel: +27 61 120 3082 / 116 9690 / 116 956
Email: info@rijkzwaan.co.za | www.rijkzwaan.co.za

PLANT THE RIGHT TYPE OF SEED TO INCREASE ANIMAL PRODUCTION

Seeds are the main component of diets globally, as 70% of mankind's food and livestock feed consists of or is derived from seeds. Seeds also fill other rules in the human diet, apart from the direct application as food or feed, and also have a commercial value.

In this editorial, examples are quoted of seeds with importance commercially; first are large-seeded grass species (grains such as rice, wheat, tef, and maize), legumes such as soybeans, beans, groundnuts, peas, and lentils.

Variety of seed uses

Production of meat is also primarily dependent upon seed crops, many seeds have used spices as whole seed or milled seeds, popular hot beverages such as coffee, cola, and cacao originate from seeds, beer is brewed from barley; whiskey and gin are distilled from milled grain granules that are fermented, edible oils for salads and cooking oil, cotton is spun from cellulose fibers that surround the seeds of cotton plants, and starch derived from crops such as maize can be used for many industrial purposes.

In order to produce the food mentioned above, one requires seeds – living seeds. However, the type of life present in seeds is unique – it is virtually life in suspension as seeds survive despite their very low moisture content which may be as low in some cases as 3%. At this low moisture level, no visible sign of life can be observed. It is only when seeds begin to take up water that they start to show signs of life. Not all seeds that take up water and swell out will germinate. Germination, therefore, includes various biochemical and cellular events. The germination process is invisible, the only observation or determinable stage of germination is the ending thereof.

New seed important!

Seeds gradually lose their ability to germinate as they grow older. Some seeds like soybeans have a very short life span under storage, whereas other seeds lose their ability over a longer period (grasses). There are various factors that determine the longevity of a seed, the most important two are seed moisture content and temperature. Also, there are factors that influence the storage life span of the seed, initial seed quality, genetic composition, moisture content, and temperature. Only seeds with high germinability and vigour should be stored.

Seeds having poor quality will have a short storage life. The moisture content of the seed during storage is without a doubt the most important factor that will determine storage life. It is important to harvest relatively mature seeds or to reduce the moisture content of wet seeds shortly after harvest.

Deterioration of seeds accelerates with an increase in moisture content. According to Harrington each 1% decrease in moisture content (in the range of 5 – 14%) will result in doubling the storage life of the seed. It is important to note that, unless seeds are hermetically sealed their moisture content during storage will not remain constant.

In conditions of open storage, seed moisture will equilibrate with that of the air and varies according to moisture in the air.

Problems or limitations of small-holder/ communal farmers

The majority of communal farmers lack knowledge of seed and seed management principles. The production practices that are used by communal farmers in a way contradict the practices that are recommended. They prefer to use the seeds of the previous harvest seeds as seeds for the next planting, with a mind to maximizing profit.

Low production?

Planting seeds that are not certified, without any records of germination percentage, seed dormancy, and seed vigour leads to a decline in production.

Certified seeds are seed of a consistently high and known quality (genetically and physically) that

has been produced according to the rules and regulations of an official seed certification scheme and for which proof of certification is available.

The certificate, seal, and label are a guarantee of varietal purity and good seed quality. Seed quality consists of seed purity, health germinability, and seed vigour. Seed vigour represents those characteristics of seed that determine the potential for the rapid and uniform emergency of normal seedlings under a wide range of field conditions.

Seed dormancy is the event where live seeds will not germinate even if all the environmental conditions are favourable. The seed will not germinate even if water and oxygen are adequate and temperature favourable. Lack of knowledge of the above-mentioned will lead to a decline in production and loss of income in the long term which results in their business being closed or liquidated.

Suggested solutions

Communal farmers need to be trained on how to handle seed for future use. Even though most of them do not have the resources to practice a task, one needs to know the basics. Again, seeds are living organisms. The healthy development of seeds starts directly after pollination.

Any careless handling during any of the processes will result in a decline in the capacity to germinate and produce a healthy plant.

Communal farmers need to be advised to buy certified seeds of any variety or crop that they plant. Even though the certified seeds are expensive, the results are guaranteed. With good skills and management, production will be improved. The aim of certification is to conduct genetic maintenance of existing varieties. The advantage of buying certified seed is that you obtain seed of a known quality.

Advantages to small-holder farmers

The advantages of using certified seeds are that diseases will be reduced, no weeds, and production will not decline with years of production. Income will increase because of reduced or limited input cost compared to when uncertified seeds are used, and input cost will be high and income is low. Good quality seeds are a way to go to increase our communal farmer's production and income. Training and Open-day sessions for small-holder farmers on the importance and advantages of certified seeds are recommended. Also, this has long-term benefits of the practice to the agricultural sector as a whole in sustaining the production of food quality.

It is imperative that the Department of Agriculture and Rural Development should train farmers and their organisations in understanding seed education and application in order for them to participate in the food market at equal level. Seed education is a most important component of agriculture in addressing food security and increasing farming households revenue.

By: PN Rakau, ARC- Animal Production, Range and Forage Science

Pasture grasses in South Africa

Eragrostis curvula

Digitaria eriantha

Kikuyu grass

Cynodon

Chloris gayana

Brachiaria

THE APIMONDIA AFRICA 2023 SYMPOSIUM A MUST FOR ALL BEE FARMERS!

This is a first of its kind event for Africa and will be hosted in KZN in March 2023. The organization of this is driven by a handful of volunteers that makes up the LOC. They are all bee farmers registered with DALRRD, members of SABIO (South African Bee Industry Organization) and then with our own respective provincial groups, Western Cape, Gauteng etc.

They appeal to all bodies to try and get involved and spread the word far and wide, and is reaching out to any form of media across Africa / to share this event, the intent is to bring together all bee enthusiasts, commercial, hobbyist, suppliers etc. not just from Africa but International attendees from Europe, USA etc. as well.

Hard work on this event could be a successful pilot of hopefully many more African Bee Symposiums in future. A call is made for sponsors, exhibitors, suppliers as well as speakers and presenters on various topics. Topics being addressed at the symposium:

Bee Health: Pathogens and Pests
Bee Health: Pesticides and Pollutants
Beekeeping Technology
Quality Control: Honey, Propolis, Wax, Hive Products
Apitherapy
Bee Biology
Beekeeping and Rural Development
Beekeeping for Pollination of Crops
Role of Policy in Apiculture
Conservation Beekeeping and Climate Change, and more subjects to follow.

This is the largest Regional event in Africa, and as the African continent is also one of the fastest growing Bee industries in the world, there are so much opportunity in Africa, unadulterated honey, organic clean wax etc.

One interesting fact, African bees swarm 16 times a year whereas European bees only swarm once a year.

Below is the web link with all the relevant information regarding the event.

https://www.apimondiaafrica2023.org.za/

Rethinking food systems for South Africa needs to start with individual food producers on the ground and expand from there. This is the approach of a project called, 'Towards re-calibrating food systems during and beyond the Covid-19 pandemic', which started in October 2020 already.

RETHINKING FOOD SYSTEMS FOR SOUTH AFRICA

Funded and coordinated by four non-governmental organisations, the project team is working with 108 individual food producers, predominantly women, including small-scale farmers, community gardeners and backyard/household vegetable producers in four municipal areas: 30 in eThekwini, 28 in uMgungundlovu, 24 in Gauteng and 26 in Bela Bela, Limpopo.

'The impacts of the pandemic and lockdown highlighted the fragility and limits of South Africa's fresh-food system. People need to take food production into their own hands and not wait for government projects,' says Stephen Greenberg, who is coordinating the overall project through the Seriti Institute, one of the participating development agencies. Thethree others are GenderCC in Sedibeng, Gauteng, the Association for Rural Advancement in uMgungundlovu, KwaZulu-Natal, and the Southern Africa Food Lab in eThekwini, Kwa-Zulu Natal.

'This project is about consolidating networks of small food producers and helping them to increase their production and livelihoods. Their success will attract other producers, and we grow the network this way,' Greenberg explains. 'We engage with the producers on agro-ecology methods and seed saving, and assist with infrastructure (such as water storage tanks and drip irrigation) and inputs (such as compost and seedlings) to sustainably increase their production.'

Many producers rely on rain-fed agriculture or expensive and erratic municipal water supplies. A key element of support for sustainable production is the development of alternative water-harvesting systems, such as on-site storage and the use of swales that channel water off roads and into the fields.

'The primary aim of increasing production is to help the producers to generate or increase their income by selling into local market channels, notably people in their communities, street traders and informal markets,' says Wanga Pholi, agricultural programme manager with Seriti.

All the partner agencies promote agroecological farming, a system where vegetables are farmed in harmony with the natural environment, including the economic use of water and enrichment of the soil with bio-/organic compost and without chemical fertilisers. Part of the project aims to assist small-scale businesses that produce seedlings and bio-compost to support the growers.
'At each of the sites, a core of vegetable producers and some livestock producers (mainly poultry) were identified, ranging from backyard gardens of 20 sqm to smallholder farms and community gardens of half a hectare to 4 ha. All these producers are vital to food security,' Pholi explains. Most are producing one or two popular crops, such as cabbages, tomatoes, spinach, chillies and peppers.

The project coordinators realised that they needed to start with a smaller number of producers for the project to succeed and are consolidating around 30 producers per site. 'If you start too wide, it becomes unmanageable,' says Pholi.

Extending the producers' supply chain to potentially link into supermarkets and the city fresh-produce markets were initially considered, but volumes, variety, quality and consistency of supply remain challenges, so this is currently being pursued for only a minority of producers, who are able to meet requirements. The producers' local communities are a far better target for surplus produce.

Improving production through agroecological farming includes improving both volumes and varieties so that if, for example, heavy rains damage the spinach crop, other hardier crops, such as peppers, will survive. The training includes peer-to-peer learning among the producers, and it takes the form of practical in-field learning or a combination of classroom and practical training. The producers favour practical training or 'learning by doing'.

'Younger producers can gain invaluable experience from the older producers, especially with regard to deep knowledge and experience in "traditional" production methods (which tend to be more ecologically sound than conventional agricultural practices),' Pholi explains.

'There is also a false notion that young people are not interested in agriculture. If proper, consistent support is in place and young people can see the results, they will participate.

There is currently an uneven involvement of young people across the sites, with several participating in uMgungundlovu, which encourages other people to join. There are fewer numbers of young people in the other sites, and this is something we still need to work on.'

The project coordinators are also working on

engaging the government at multiple levels – local, district, provincial and national – to promote working together and agreeing on production systems and support that will consolidate and strengthen producers and increase access to markets. 'Government is still focused on conventional inputs such as the mass purchasing and use of chemical fertilisers and pesticides that are harmful to the soil and for human consumption,' says Greenberg. 'Government provides budget in the tens of millions of rands to promote small-scale agriculture, but it needs to be invested in the right kind of inputs.'

The majority of small-scale producers use their own compost and manure for soil fertility. Only a small percentage use synthetic fertilisers, and mostly in combination with organic soil fertility methods. The majority of producers also use home remedies to combat pests and diseases, as well as intercropping. Some of the small-scale producers have been channelled into conventional production through the types of inputs and extension advice they have received from the government over the years. They are interested in exploring and adopting agroecological practices, as a low-cost, healthy alternative that also reduces their reliance on the government. This transition needs to be monitored for tangible progress to encourage other farmers to follow suit. By Heather Dugmore

Mrs. Lungeleni Sibiya (centre) from Swayimani is a small scale beans, mealies, potatoes and amadumbe (taro) which are local root vegetables farmer. Due to recent changes in rainfall intensities, her yield and production of beans and amadumbe have been affected. Through the introduction of new small scale farming techniques by the uMngeni Resilience Project, she has increased her maize and sweet potato production. This has helped her feed her family and make more income through the selling of excess produce. **(SANBI)**

2022 ARC NATIONAL MASTER DAIRYMAN AWARDS ANNOUNCED

The Agricultural Research Council's (ARC) annual National Master Dairyman Awards ceremony was presented on Thursday 17 November 2022 as a hybrid event at Groot Phesantekraal Estate in Cape Town.

This prestigious competition celebrated outstanding performance by South Africa's top commercial and smallholder dairy farmers and is recognised by key stakeholders as a highlight of the country's agricultural calendar. The event was hosted by Agri-Expo, on behalf of the National Milk Recording and Improvement Scheme of the ARC.

Dr Litha Magingxa, President and CEO of the ARC, congratulated the winners and thanked them for their confidence in scientific innovation to improve productivity and food security. During the last year, the ARC provided scientific services to 105 dairy farmers to improve the genetic quality of the national dairy herd.

Joyene Isaacs, Chairperson of the ARC, emphasised the importance of recognising dairy farmers as food providers, but also of support systems and partnerships in the dairy industry. "We all have a role to play, and because we play this, the country has food," Isaacs explained.

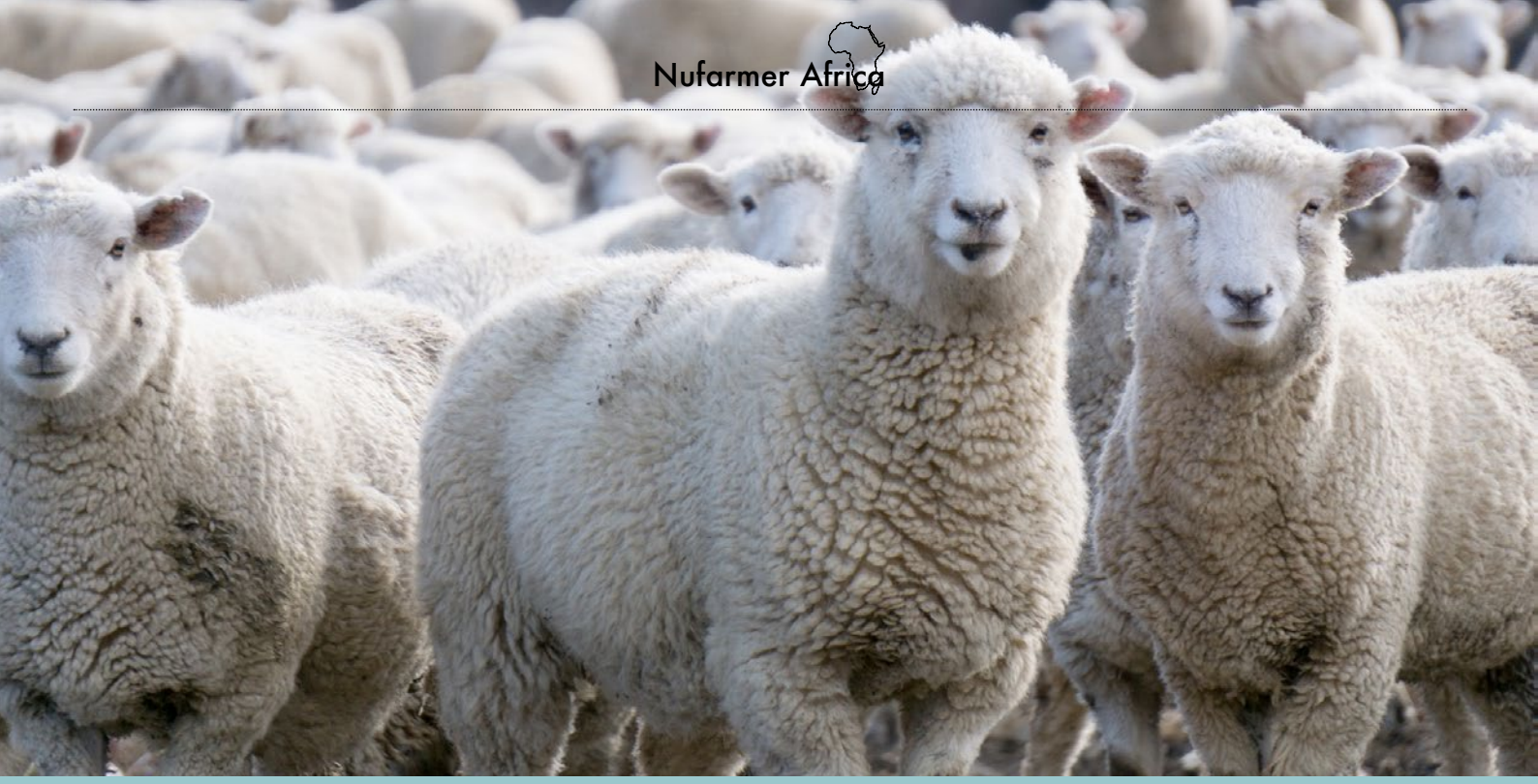
The winner of the ARC National Small-Scale Dairyman of the Year 2022:
Zim Dairy (Nompe Zim), between Harrismith and Kestell, Free State (for the fourth consecutive year)
ARC National Herd with the Best Somatic Cell Count 2022:
E Zeeman (Etienne Zeeman), Swellendam, Western Cape, with 170 000 cells/ml

ARC National Herd with the Best Intercalving Period 2022:
Tweekop Boerdery (Pieter Steenkamp and Dirk van Papendorp), Heidelberg, Western Cape, with an intercalving period of only 370 days

Special award: ARC Honorary Award for Lifetime Contribution to the SA Dairy Industry
Peter Pentz Snr (Groote Post, Darling, Western Cape)
The finalists of ARC Regional Finalists for Small-Scale Dairyman of the Year 2022 was:
Letsolo Poultry, Piggery and Dairy Farm (Christian Tsolo), Sebokeng, Gauteng
Summerhill Farm (Gugulomuzi Ngcobo), Donnybrook, Ixopo, KwaZulu-Natal
Zim Dairy (Nompe Zim), between Harrismith and Kestell, Free State

The ARC's National Milk Recording and Improvement Scheme plays a critical role in the dairy industry through the provision of genetic improvement services, accredited by the International Committee for Animal Recording (ICAR). The objective of the scheme is to enhance the sustainability and profitability of production, ultimately contributing to food security, job creation and human capital development.

ARC National Small-Scale Dairyman of the Year 2022: Nompe Zim (Zim Dairy, Kestell, Free State) Photo: Agri-Expo



GROWING YOUR SHEEP HERD: OESTRUS SYNCHRONIZATION AND MATING SYSTEMS IN SHEEP

Oestrus synchronization is the process of manipulating the oestrus cycle of female animals that result in standing heat at the same and short time. This reproductive technology is very active in increasing the number of animals to be bred at a particular time.

Different signs of oestrus in sheep include increased restless behavior, frequent urination, mounting and swollen vulva with the presence of mucus (clear during early estrus, thicker and cloudy later is oestrus). However, there are advantages and disadvantages of oestrus synchronization in sheep:

Advantages

Oestrus synchronization shortens the lambing interval, which allows ewes to conceive earlier in the breeding season. It is more effective when using AI and embryo transfer to reduce time and labour in detecting heat. It will cause production of more uniform lambs with similar ages. It is easy to plan fodder flow for lambing season to limit mortality and stunting due to underfeeding.

Disadvantages

The main disadvantage of oestrus synchronization is that it is costly. Also, oestrus synchronization requires manpower to catch each animal.

Different methods

Progesterone-based method

Short-term (6 - 11 days) and long-term (12 – 19 days) progestagen protocols can be used to synchronize sheep oestrus. The most commercially used intravaginal devices/dispensers for oestrus synchronization (control CL function, stimulate follicular development and regulate ovulation) in sheep are medroxyprogesterone (MAP), flurogestone acetate (FGA) and controlled internal drug release (CIDR).

To improve fertility when the progesterone-based method is used either CIDR or sponge, it is necessary to inject gonadotropins after the removal of the dispensers. Three commonly used gonadotropins include equine chorionic gonadotropin (eCG), follicle - stimulating hormone (FSH) and gonadotropin - releasing hormone (GnRH).

Prostaglandin based method

With this method, one injection is administered intramuscularly and oestrus is expected to occur within 2 to 5 days, at which time animals may be inseminated or mated. Estrumate ® (cloprostenol injection) is a leading prostaglandin that is widely used to induce oestrus in sheep. This reproductive tool allows better management of heat detection, breeding and lambing intervals.

However, there are precautionary measures that one might take when using Estrumate such as:

It may damage fertility or the unborn child from repeated oral exposure.

Causes damage to the nervous, cardiovascular, liver, blood and hematopoietic systems through prolonged or repeated oral exposure.

It may cause abortion, if thorough pregnancy diagnosis is not done.

Ram effect on oestrus response

In normal circumstances or where facilities are available, ewes and rams are separated during the non-breeding season. This is necessary because if ewes have no contact with rams, are totally isolated from each other, and are not cycling, they can be stimulated to start ovulation by the sudden introduction of rams. Adult rams may be more effective than young rams in the induction of these responses.

The greatest value of the ram effect is the synchronization of oestrus activity that will result in large numbers of ewes ovulating, mated, conceiving and lambing in a relatively short period. Rams produce chemical substances called pheromones, which are perceived by the ewe and can stimulate the onset of oestrus in peri-pubertal ewes or ewes approaching the onset of the breeding season.

Mating methods following oestrus synchronization

Hand mating

Hand mating is a mating method that involves the placement of ewe on heat in a small pen where she is mated by a selected ram with supervision by a person. This method has some advantages such as allowing the exact breeding date to be recorded

etc. It is however, labour intensive. The key to successful hand mating is to have well-designed handling facilities, oestrus detection procedure and efficient use of labour.

Artificial insemination

Artificial insemination can be described as a way of introducing sperm cells into the reproductive tract of female with an aim of achieving a pregnancy without the natural use of a live ram. In sheep, there are different methods of artificial insemination, namely:

Vaginal insemination:

An artificial insemination pipette with a 1 to 2 mL syringe attached is placed deep into the vagina. This method is quick and involves minimal restraint of the ewe. For this method, it is recommended to use fresh diluted semen.

Cervical insemination:

The ewe is restrained to limit movement and to present the hindquarters at a suitable height for easy access to the vagina. After cleaning the vulva, the cervix is located with the aid of a speculum, and the insemination made deeply into the cervical canal using a long, thin inseminating tube with attached syringe or any suitable insemination device. Both fresh and frozen thawed semen can lead to good conception rate when this method is used.

Laparoscopic insemination:

This is a complicated and expensive method of artificial insemination, which involve surgical procedures. Ewes are firstly injected with anaesthetics, placed on a dorsal position on the artificial insemination cradle. Two incisions are made, parallel to the mid line of the abdomen.

First incision is made to inflate air into the abdominal cavity. Second incision is where a trocar-cannula will be inserted through which the endoscope is introduced and an insemination pistol also introduced containing straw of semen, semen will then be deposited in each uterine horn.

Advantages of artificial insemination

There is no need to feed a ram hence, cutting costs on feeds.
It limits the spread of infectious diseases.
It can improve genetic material in the flock by using superior sires.

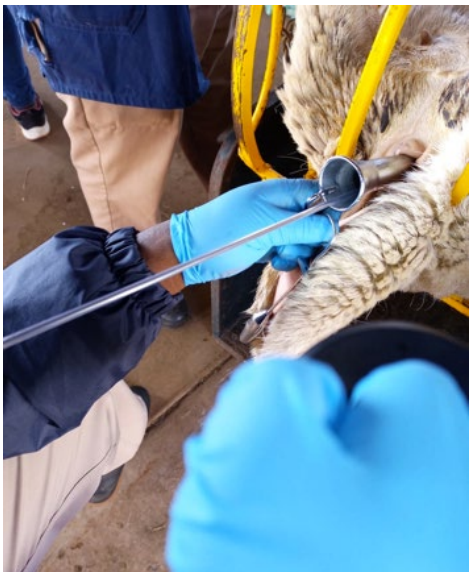
Disadvantages of artificial insemination

It requires expensive facilities e.g. nitrogen tanks to keep semen straws.
A trained technician is required to conduct AI.

Pen breeding

In pen breeding, the ram is put in a pen of ewes to facilitate their mating. This method relies on the male to detect females on heat. It is significantly less labour-intensive when compared to hand-mating breeding. Pen breeding has the disadvantage of resulting in a less certain day of breeding record. In addition, if more than one female comes into heat on the same day, the male may single out one female and miss the others.

CIDR insertion



Vaginal insemination at ARC-Irene with the aid of a speculum

Zulu ram mating Zulu ewes at ARC-Irene

There might be a need for follow-up pregnancy diagnosis to determine the female's due date. Additionally, the age of the male must be considered when determining breeding densities. A yearling male should be placed with 10 to 25 females, while a more mature male can be placed with 15 to 40 females.

In conclusion; the use of oestrus synchronization can increase fertility in sheep production. Although artificial insemination and hand mating are expensive and labour-intensive, respectively they can improve the genetic material of the flock and avoid inbreeding.

Nevertheless, artificial insemination remains expensive for smallholder farmers thus necessitating the use of hand mating following oestrus synchronization. **By: Dr FV Ramukhithi, ARC-Animal Production**

Every drop counts!

Alcohol abuse steals your human life!
Stop before it is too late!

Recycle – do not let go for 'landfill'!

SA'S PROGRESS BROKEN BY WATER MISMANAGEMENT, LOW RECYCLING AND ALCOHOL ABUSE

Water is essential to life, and while it is estimated that as much as 70% of the Earth is covered in water, this resource remains critically scarce in some regions and countries. The United Nations Sustainable Development Goal Six pledges "clean water and sanitation for all".

Despite being surrounded by two oceans, South Africa is categorised as a water-scarce country. Compounded by the triple challenges of inequality, unemployment and poverty, only 7.3 million (43%) households have access to water services across all dimensions of the 2016 Trade and Industrial Policy Strategies (TIPS) survey.

Reduce, reuse or recycle: water sustainability

Water is also central to a business' and farmers' life, particularly that of a spirits manufacturer or wine producer. It is the key ingredient in its products. "We get our water from the municipalities where our offices, centres and sites are located. This means we are in competition with local communities for access to this scarce resource," explains Bayanda Cwazibe, Supply Chain Director at Edward Snell (wine and spirit merchant).

"Through operations analysis, we identified that bottle rinsing was among the processes that consumed and wasted the largest amounts of water. A decision was taken to overhaul our bottle rinsing system and redesign the machines that execute this function. The new design drastically improved our water retention capability and has delivered as much as 80% water savings during bottle rinsing," continues Bayanda.

"We introduced new facilities and technologies to further optimise, such as a newly commissioned wastewater plant at the Isando production facility. All liquid waste is funnelled to the plant where it is repurified and reprocessed for the use of cleaning services and ablution. "Eventually our goal is to enhance our purification capability to the extent where wastewater can be used for drinking and product manufacture," adds Bayanda.

Solid waste

Unlike liquid waste, solid waste is more difficult to recycle. We currently recycle as much as 75% of our solid waste. Our engineers and product design specialists continuously strive to develop alternative product designs that could allow for an additional 15% of our solid waste to be recycled, Bayanda revealed.

This is in conjunction with the business' transition away from the use of virgin materials to recycled materials in the first instance. This should reduce the amount of solid waste produced, and contribute to the attainment of the NDP goal of removing landfills.

Empowering the community

Inclusive growth should be inherent to sustainable development. This translates into the importance of empowering and upskilling the local communities located within a company's vicinity. "K1 recycling is a township-based recycling company which has been absorbed into Edward Snell's enterprise development programme. The company is one of the biggest buyers and sellers of all kinds of waste scrap in Katlehong, and they also teach communities about the importance of recycling, separation-at-source and the countless entrepreneurship opportunities available to young people within the green economy," explains Bayanda.

South Africa's drinking culture a threat

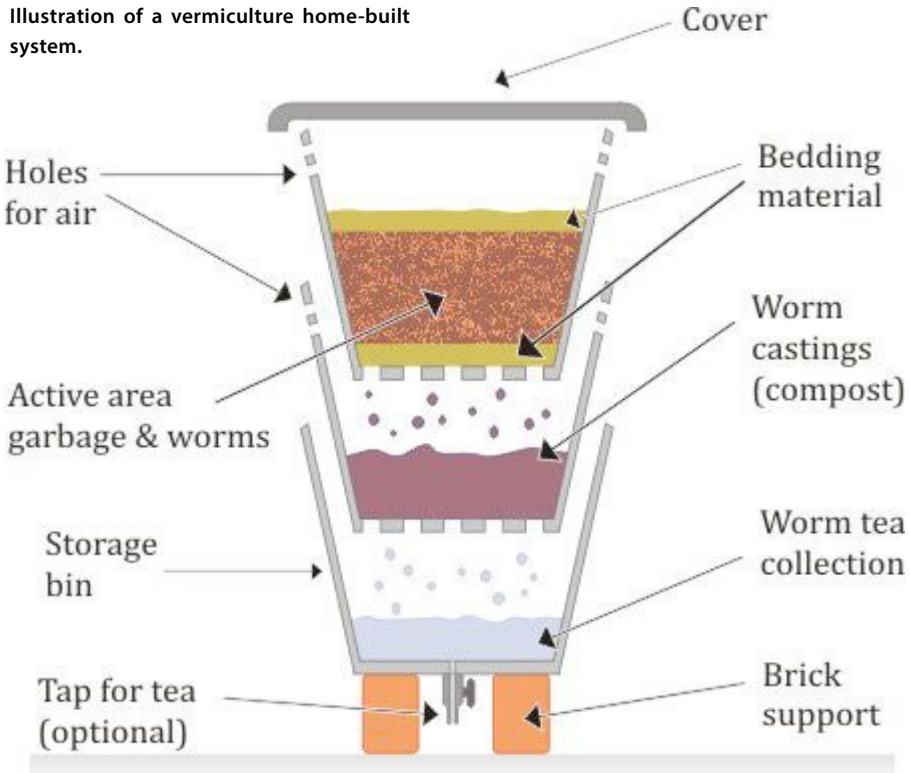
South Africa has the sixth highest adult per capita consumption in ml of absolute alcohol, although only 43% of adult men in the country drink, as do about one in five women, according to the World Health Organization (WHO). Put differently, the country has a drinking culture that threatens its future prosperity.

"We've initiated various initiatives to make the public conscious about drinking responsibly. We fully support and participate in Aware.Org and its efforts to create a socially responsible drinking culture. We're also reducing the spirits percentage of our products and our partnership with Lyres, the world's leading non-alcoholic spirits manufacturer, is a continuation of these efforts to help consumers drink more responsibly," Bayanda concluded. **ESPR**

FIVE WAYS TO COMPOST FOOD WASTE FOR SOIL HEALTH

Do you have any food left-overs gone bad? Food in fridge got spoiled due to load shedding? Have you got two-day old veggies, spoilt because they weren't stored properly? Surplus cake and pastries after serving too much at a weekend party? These and other types of food waste are becoming more and more common, with the WWF reporting that one-third of all food in South Africa is never consumed and ends up in landfills.

Illustration of a vermiculture home-built system.



The government, private business and many individuals have risen to the challenge of combatting food waste by turning to composting.

Undemanding and eco-friendly (since it is carbon neutral), composting is the most basic method of recycling food waste. It also contributes to a circular economy by avoiding waste going to landfill, improving soil health, reducing greenhouse gas emissions (GHGs), recycling nutrients and mitigating the impact of droughts.

Although common, there is more than one way to compost food waste, which can be daunting to newcomers looking to make a small difference in their homes or at work. We've rounded up five ways to compost so you'll never waste another morsel again.

Tech-driven composting

Like everything else in life, composting has gone high-tech, too. Devices such as the iCompost by The Compost Kitchen, allows you to create compost easily, without any mess and in just a few hours. Compost machines dry, grind and cool the waste you add to it, using a specially formulated compost activator to stabilise the material.

The result is no-fuss compost that alleviates odours

>>> to page 16

<<< from page 15

and liquids, and yields a natural and nutrient-rich soil amendment that can be used in pot plants and gardens within five to six hours. Although compost machines use electricity, the benefits — such as almost instant compost, being odourless, producing little to no noise and being able to self-clean, amongst others — provides more people the opportunity to compost effortlessly.

Vermicomposting

If you've been composting for a while and want to take it further, vermicomposting uses earthworms to eat your food waste and produce a natural, odourless, nutrient-rich fertiliser.

The process takes about three to six months, so you'll need to be both patient and not squirmish around insects.

Vermicomposting, i.e. worm composting, can be done outdoors or indoors for those with very little space (think in your garage, basement or even under the sink). Purchase a vermicompost system (a typical system can cost upwards from R1, 000) or create your own with a wooden or plastic bin that has holes in the sides and bottom for ventilation and drainage.

Vermicomposters need to be raised above the ground for excess liquid to flow out and should contain worm bedding such as shredded paper and cardboard, dry leaves or straw, and some soil. A typical home system requires about half a kilogram of worms, which you can feed once a week by burying the food waste beneath their bedding.

Be sure to keep the moisture level of the bedding similar to a damp sponge and be careful not to feed the worms any animal products, fats or oils. This may mean that a lot of your food waste will still end up in your rubbish bin, or you can add it to a separate compost heap.

At-home compost pile

The cheapest way to start your composting journey is to add your food and garden waste to a pile that's at least one metre high and placed in a shady area, away from direct sunlight. Add a bit of water as you add items so the mixture can ferment naturally. The pile needs to be turned and watered regularly, and you can add anything from dead leaves, branches, twigs and grass clippings to vegetable waste, fruit scraps, tea bags and coffee grounds.

If you have a lot of coffee grounds, you can neutralise it with fire ash. Avoid adding pet waste, meat and fish scraps, dairy items, oils, paper towels and other non-organic matter and chemicals to the compost pile. Once the material at the bottom of your pile is dark and moist, the compost is ready to be used in your garden.

By: James Orton, Gardening Advisor

Graduates of the three-year Women in Farming programme.

YOUNG FEMALE FARMERS CELEBRATES GRADUATION

Candidates from a prominent insurance company's Women in Farming programme (a three-year incubator that aims to enhance the skills of young black female farmers), recently celebrated their graduation from phase one of the programme, which covers training in areas such as mental wellness and analysis; poultry and vegetable farming; and soil fertility and plant nutrition.

At the end of the programme, graduates are invited to become part of the Pietermaritzburg Agri network, qualifying as contracted traders while receiving exposure to new market access opportunities, enabling them to grow their enterprises. **JS**

John Mthembi, Freelance Agricultural advisor and writer talking to people during the farmers' day.

INTEGRATED FOOD PRODUCTION INITIATIVES IN LIMPOPO PROVINCE

In xiTsonga language when faced with a problem or a situation which requires that no effort should be spared in finding a lasting solution to it they often say "Indlopfu ya hina" Which in English it could read "it is our elephant". Upon hearing such rallying words, one immediately knows that no stone should be left unturned to address the situation at hand.

Recently the Limpopo department of Land Agriculture and Rural Development lived up to the saying by facilitating a series of campaigns through farmers days and information sessions around villages where stakeholders and role players came together to discuss issues affecting village maize producers in particular as the commodity constitutes a single main source of staple diet amongst the majority households in the province. Such role players included production input suppliers, seed company producers, local business people, milling companies as well as tractor contractors who are hired to prepare the land for planting to mention but a few of them.

Main objective

The exercise was mainly motivated by the fact that village grain producers who are largely elderly people and the silent majority in the farming sector seem to be left out in the process towards the adoption of improved production practices which are a requirement in as far as high harvest is concerned. That partly due to the long distance to be travelled to purchase such inputs required in the process of production.

Also contributing to such a problem is as a result of critical role players along the chain operating in their own space without due concern to the wellbeing of the other enterprises, which does not go well with the clear mandate of ensuring food security and pushing the frontiers of poverty in the province.

As expressed by the department's declaration and intention of total eradication of hunger through sustainable and integrated crop production activities. Spearheaded by the FetsaTlala sub program. Which is an arm of the provincial farmer support program.

Correcting the situation

To harmonize the situation, as agents of change and primary facilitators of sustainable food production "we have embarked on a program to ensure that village development in this regard is being approached in an integrated manner," said Lillian Maake, an extension officer during one of such events which was held at Gavaza village on 11 November 2022 under Greater Tzaneen municipality. Hence today and moving forward our approach will all be inclusive in nature. Similar events where different critical role players in the food production process were held in different villages of the province were at Ribungwana under Makhado municipality, Julesburg under Greater Tzaneen, Moshate ,Hlohlokwe, Madeira at Maruleng municipality under Sekororo traditional authority as well as Ramodumo within the Greater Letaba jurisdiction boundaries. The initiative to invite all critical role players to come together to share experiences and expectations with regard to addressing food insecurity proved to be the right course as role players pledged to ensure that food production activities in designated areas "proceed unhindered and uninterrupted." Explained Mr Bennett Mkhavele representing the Nkuna traditional authority at Mhangweni village. "As much as the department is to a larger extent a primary custodian of activities towards sustainable food production, we strongly advise that land to do so should properly be acquired through recognized channels." Explained Portia Mudau who is attached to the Natural Resource Management division of the Limpopo Department of Land, Agriculture and Rural Development within Collins Chavani municipality in the Vhembe district. "As we face this daunting situation, together we should do so within acceptable social and natural resource use balance. Indeed it is "our Elephant, and it needs our undivided effort and commitment".

She emphasised during the farmers' day which was held at Ribungwana village on the 16th of November 2022.

By: John Mthembi, Freelance Agricultural advisor and writer Cell 0730070472

Spray clinics enable growers to get the best possible return on the astronomical amounts they spend every year on buying and applying agrochemical products.

SPRAY CLINICS DEAL WITH POOR APPLICATION OF AGROCHEMICALS

Profitability, natural resources, worker safety and the on-going efficacy of agrochemicals are all at stake when crop-protection products are not applied properly. Spray clinics hosted countrywide addresses this problem.

"It is not an exaggeration when we estimate that about 80% of growers fail to apply crop-protection products as accurately and effectively as they should be doing," says Gerrie Ludick who has first-hand experience of the magnitude of the problem.

Over the past 18 months, 15 row-crop spray clinics had been presented in the Free State and Mpumalanga, and recently the programme was expanded to the Far North with clinics aimed at citrus growers.

The spray clinics deal with two themes, namely the responsible use of agrochemical products and effective application practices. "Both these themes are underpinned by the responsibility we assume for the conservation of the environment and the wellbeing of humans and animals," says Ludick. "As is the case with everything we do, this stewardship role starts on the farm."

The part of the proceedings that focuses on the responsible use of products covers topics such as how to correctly read and interpret a product label, why it is important to carefully adhere to safety measures and how to dispose of empty containers. Water as the carrier of agriculture products is one of the most important topics addressed in terms of application practices.

The fact that a citrus grower uses between 2 000 litres and 8 000 litres of water per hectare in the application of crop-protection products, highlights the importance of avoiding mistakes.

According to Duard Bruwer, the two most common water-related errors are growers not using enough water in their tank mixtures and not ensuring adequate water quality. "Water with a too high salt content or a pH that is either too low or too high can dramatically decrease a crop-protection product's efficacy," explains Bruwer. "For this reason,

adjustments have to be made before any product or adjuvant is added to the tank."

Growers should never assume that spray water extracted from different sources is in essence the same. "If you have a few boreholes on your farm and maybe a river and a dam or two, it is inevitable that the water quality of one will differ from the others," adds Ludick. "Therefore, you cannot simply add water from different sources to the same chemical mix without doing the necessary conditioning."

When growers neglect to do the necessary preparation, the value of an application is largely lost. Not only is the investment in the product a write-off, but thousands of litres of water are wasted, and the risk of environmental damage is created because the application was not done according to the manufacturer's instructions. "An incredibly important additional consideration is that ineffective applications encourage the development of resistance," says Bruwer. "The continued availability and efficacy of quality products are critical. This can only be ensured by protecting the product technology, which depends almost entirely on application practices."

"It is easier to rectify mistakes in wet seasons; when rain is scarce, results are almost entirely dependent on accurate application," says Ludick. A rather chilling reality is that bigger and better technology increases the fault factor on a farm exponentially. Until a few years ago, 20 hectares were the maximum area that could be sprayed in a day. Modern-day high-rise sprayers, however, can make short work of 300 hectares. A measurement or water-quality error at the start of the day, can therefore have catastrophic consequences.

Whenever the spray clinic team highlights facts like these, several growers usually confess to never having considered those factors. To a large extent, the value of the spray clinics lies precisely in such tips and nuggets of insider information. It is, however, not only the experts who get to share their knowledge.

The intimate nature of the events – only a handful of growers are invited to attend – allows participants to learn from each other and ask all the questions they want. The networking opportunity alone is invaluable.

The objective with the spray clinics is to enable growers to get the best possible return on the astronomical amounts they spend every year on buying and applying agrochemical products. Effective application is the one production factor that is completely within a grower's control.

The good news is that the basic principles are simple – all it takes is to apply them consistently, carefully and to the last letter.

WANT TO READ MORE IN NUFARMER AFRICA? SUBSCRIBE NOW FOR A MONTHLY ELECTRONIC COPY!

SUBSCRIPTION FORM FOR AN ELECTRONIC COPY

NUFARMER Africa

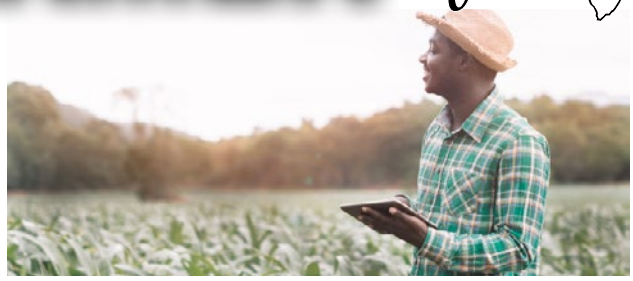
Email the details below to subscribe for your bi-monthly copy of Nufarmer Africa! Remember to also mail your proof of payment to magazine@axxess.co.za

Name: .....

Address: .....

Code: ..... **Tel:** .....

Your E-mail Address: .....



Subscription charge for your electronic copy:

R195.00 (Foreign: US$30)

6 editions per year

Pay your subscription fee directly into our bank account:
NUFARMER at First National Bank, A/C 62007699806 Kolonnade - Branch code 251037 (Swift Code: FIRNZAJJXXX)

CAPE TOWN
UNDERCOVER FARMING CONFERENCE

SAVE THE DATE

18 - 19 OCTOBER 2023

Allee Bleue,
Groot Drakenstein
CAPE TOWN

UNDERCOVER
FARMING CONFERENCE
WESTERN CAPE

MORE INFORMATION CONTACT: MARION OOSTHUIZEN
Cell: 071 6399 300 or email: marion@axxess.co.za
For more detail visit www.undercoverfarmingexpo.co.za