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Young Kylie a blue-blooded dorper farmer

The 12 year-old young Kylie Lucas of Rustenburg in North West is indeed a born and bred dorper farmer despite her tender age and many men and women have terribly misjudged themselves with regard to her skill with and expertise in the dorper farming industry. Kylie has caused a sensation in October 2020 when she became the youngest person in South Africa and across the world to pass the Dorper Sheep Breeders' Society of South Africa's Junior Dorper Course. It is interesting to note that only a handful of dorper farmers around the country have managed to pass this stringent course which is aimed at improving the dorper breed. Kylie is the daughter of André Nieuwenhuis and Tayla Lucas of Rustenburg. Kylie's mentors are Larry Dietrich of Plenty Dorper Stud and André Nieuwenhuis of AJ Dorper Stud.

Hydroponic solutions for intensive vegetable cultivation

AGRI-PULSE - The Food and Agriculture Organization of the United Nations projects that by 2050, there will be nine billion people on the planet, 75% of whom would reside in urban areas. Thus, one of the biggest challenges will be meeting the demand for food. The dependency of agricultural practices on water availability in an age of drastic climate changes creates the need to exploit surfaces no longer fertile for agricultural purposes. Soon urban and peri-urban methods of intensive agriculture will used to supply local communities. And one such method of soilless plant cultivation that is being exploited to solve these issues is hydroponics (Velazquez-Gonzalez et al. 2022).

The Netherlands, Australia, France, England, Israel, Canada, and the United States are among the world leaders in hydroponic technology. About 3.5% of the land now used for vegetable cultivation in tunnels and greenhouses, uses soilless farming methods based on hydroponic solutions, such as Floating Root System or Deep Water Culture (DWC), Drip Irrigation, Aeroponics, Nutrient Film Technique (NFT), Ebb and Flow and Aquaponics. The NFT approach to hydroponics has been successfully employed in the commercial production of leafy and other vegetables around the world with water savings of 70 to 90%. By utilizing not only the horizontal surface area but also the vertical space above it, hydroponics can increase yield compared to traditional farming by effectively increasing the number of plants per unit area. Additionally, hydroponics allows for the year-round harvesting of several crops while utilizing less water and land than conventional open-field agriculture and without haphazard chemical or fertilizer discharges into the environment.

Studies have shown that the quality, taste and nutritive value of produce grown in hydroponic systems is superior to soil cultivated crops. Leafy greens (lettuce, spinach, parsley, celery, etc.) can be grown successfully and simply in hydroponic systems, according to a number of experimental discoveries. Due to their superior growth and nutrient uptake capacities, lettuce and spinach are the most promising species to grow in integrated hydroponics and aquaculture systems (Sharma et al., 2018).

Lettuce

When compared to conventionally cultivated lettuce, the hydroponic variety has a very short life cycle. After 35 to 40 days of growth, hydroponically grown lettuce can be harvested. In the NFT method, lettuce can be grown effectively, and more than eight crops can be produced successfully each year. The yield and yield components of lettuce grown in a recirculating hydroponic system with a 50 plants m2 spacing were dramatically boosted (Maboko and Plooy, 2009).

Tomatoes

The nutrient film technique (NFT) and deep flow technique (DFT) are the most often used methods for effective tomato production. Tomato growth, productivity, and mineral composition were all increased in the NFT system when nutrient solutions were recycled regularly (Zekki et al., 1996). Different tomato varieties were tested in open and closed hydroponic systems, and the closed system produced a higher commercial output (Maboko et al., 2011).

Other

Cucurbits viz. cucumber, cantaloupes and even strawberry and different cut flowers are being commercially grown under various hydroponic systems.

However, there is still much room for improvement, as evidenced by the extensive research activity focused on fine-tuning fertilizer/ nutrient concentration in hydroponic solutions, particularly (1) to control nitrate content in edible plant tissues (2) to ensure the safety of vegetables, and (3) to improve the nutritional quality of the yields. For the development of various strategies for the optimization of hydroponic vegetable production, it is essential to comprehend the mechanisms underlying the mineral nutrition in plants and their regulation (competition/antagonism/ interaction among nutrients) as well as the bio-geochemical cycles of nutrients in the soil solution (solubilization/ precipitation). This becomes even more important with the use of beneficial microorganisms like Plant Growth-Promoting Rhizobacteria, Nanoparticles and Biofortification programs with oligo elements, to improve vegetable quality and shelf life.

It is interesting to highlight that the most significant discrepancies between agricultural and industrial processes will be diminished by the hydroponic cultivation of vegetables carried out in constrained and well-controlled conditions, which will ultimately improve quality control. However, in order to accomplish this, a set of specialized monitoring equipment made especially for the hydroponic farming method are required. In this context, sensors for real-time analysis of the composition of hydroponic solutions (i.e., the availability of nutrients/elements) and interpretation algorithms based on machine learning logics are crucial.

In a world where technology is morphing by the hour, precision agriculture is being promoted for small scale operations by paradigms like the Internet of Things1 and Industry 4.02, which enables affordable real-time management of factors like pH, electrical conductivity, and temperature, among others, leading to higher productivity and resource savings. Large-scale hydroponics facilities run under controlled lighting, irrigation, and climate conditions, which are provided by the many sensors, web platforms, software, and mobile applications that are currently available. Due to such technological advancements, the hydroponics' market is expected to grow significantly from 2021 to 2028, at a compound annual growth rate (CAGR) of 20.7% from 2021 to 2028. Europe and Asia Pacific regions for example, are estimated to cultivate the most substantial amounts of tomatoes through hydroponics by 2028 (Velazquez-Gonzalez et al. 2022). However, in order to successfully apply commercial hydroponic technology, it is crucial to provide low-cost methods that are simple to use and maintain, need less labour, and have lower setup and running costs.

Footnotes

The Internet of things describes physical objects with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks. (Wikipedia)

The Fourth Industrial Revolution, 4IR, or Industry 4.0 (Bai et al 2020) conceptualizes rapid change to technology, industries, and societal patterns and processes in the 21st century due to increasing interconnectivity and smart automation) (Wikipedia)

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Cold rooms too hot due to load-shedding

AGRI-PULSE - Enjoy that chop while you still can, because red lights are flashing for the red meat industry.

Load-shedding has a serious effect on the operation of cold rooms. Danger lights are starting to flash more and more for economic growth and food security in South Africa amid Eskom's ongoing load-shedding and its impact on the primary agricultural industry and the value chain.

It is especially industries that depend on irrigation and energy-intensive industries that are forced to their knees. The result of load-shedding is therefore tangible and leads to monetary as well as operational challenges in these industries. Even cold chains, which must be maintained in the red meat value chain, devalue it.

Gerhard Schutte, CEO of the Red Meat Producers Organization (RPO), says this industry is in a favorable position due to the fact that extensive production is not directly affected by load-shedding. "As far as feedlots are concerned, it's about livestock feed mixing and distribution to pens and this can happen within load-shedding sessions, so up to the abattoir I don't think it has a very big impact."

He believes that load-shedding does affect abattoirs' ability to function efficiently. Therefore, the entire cold chain from there to the consumer is placed in a less favorable position. "The bad news is that this contributes to red meat being more expensive for the consumer, while it does not bring extra money to the farmer's pocket. The product is more expensive in the retail trade due to the inefficiency of the value cold chain, which suffers from higher costs, while the farmer gets the short end of the stick."

Dr Gerhard Neethling, general manager of the Red Meat Abattoir Organisation, spoke to AgriOrbit,

He says approximately 410 abattoirs in South Africa are currently responsible for supplying healthy and safe red meat. This meat forms an important part of the country's protein needs. However, red meat regulations must be met in terms of the Meat Safety Act. Among other things, the law stipulates that carcasses must be cooled to 7 °C, before a product may be distributed to customers. Although it is not mandatory, raw and red waste is also further processed and cooled at most facilities. He says apart from cooling, the normal operation of larger abattoirs is also further dependent on continuous energy supply and various mechanized processes are in place to ensure better quality and a safe product.

Equipment hygiene is also dependent on hot water or water at 82 °C. All this is threatened by load shedding.

According to him, the slaughtering process can still be accompanied by power outages, but the cooling process is a continuous process and fluctuations during this cycle pose unacceptable health and quality risks.

Neethling believes that increasing cost pressure related to energy supply, as well as the inability of the consumer to pay additional costs, has already led to approximately 30 abattoirs being forced to close their doors in the past five years. Although the use of generators has been the norm at abattoirs for some time, the pressure has increased due to the fact that further expansion of infrastructure in terms of energy generation is required, as power outages become more and more frequent. This includes solar power and biogas. Neethling says the impact of these increased costs has already led to reduced production in red meat, while some facilities have started with staff reductions.

"The continued increase in costs therefore also has a serious impact on the sustainable supply of food. The abattoir industry has obviously continuously tried to absorb these rising costs as much as possible, but the continuous impact puts tremendous pressure on us."

Okra - an unknown, unusual superfood

By: Elsabé Kleyn

Okra plant is prolific and can produce fruits for up to 12 weeks during the summer months.

AGRIPULSE – BRITS – Okra, those strange and unknown green, pea-like, fuzzy-looking pods, usually sold in boxes or punnets at food stores and farm stalls, is considered to be a superfood that has the potential to mitigate human nutrient deficiencies and help lower the risk of health conditions and diseases like obesity, diabetes and cancer.

To learn more about this little known about flowering plant with its edible seed pods, AgriPulse visited Bheki Mabhena, on his farm, Manala Exotic Farm, in Soutpansdrift just outside of Brits in Northwest.

Bheki, a Scientific Project Manager, left the hustle and bustle of Johannesburg two years ago to pursue his passion for agriculture.

"Growing superfoods that have high nutritional value fascinates me. One such superfood is Okra or Lady's fingers, with the scientific name of *Abelmoschus esculentus*. It is actually a fruit, though it is eaten as a vegetable. The geographical origin is disputed: some claim that it has African origins (West, South and North East Africa), while others think that it is Asian in origin (South and Eastern Asia). During my research I found out that this plant is a rich source of dietary fibre, which builds satiety, delays sugar release and limits hunger pangs, thereby reducing calorie loads. And that the antioxidants, phenols and pectins it has, help to reduce bad cholesterol, Bheki said. "According to the website MedicalNewsToday, one cup of okra weighing approximately 100g contains a whopping 20 vitamins and minerals. It is high in fibre and considered a cholesterol-lowering food too."

Bheki said that the best part of growing okra is that, while the plant is a prolific producer, it is a drought-tolerant plant that needs minimum maintenance and it loves the warm weather in Brits. Okra reaches maturity in 50 to 65 days. The plants can produce fruits for up to 12 weeks during the summer months. The pods can be harvested every day at peak plant production and they will keep on coming. For best produce, harvest pods when they are between 5cm and 10cm in length. In ideal conditions, okra can yield five tons per hectare.

"When cooked, okra has a uniquely mild, almost subtle taste, grassy flavour and a gooey texture overall," Bheki said. "The scientific explanation for okra's sliminess, is that the pods are mucilaginous." (Mucilage is a jellylike, viscous substance of this plant which becomes obvious when cooked).

"Okra is most commonly used in soups, stews and as a whole side dish. To reduce the sliminess, cook okra with an acidic food, such as tomatoes, vinegar and lemon or it can be grilled at very high heat."

While it's sometimes compared to the taste of eggplant or green beans, its texture gets more attention. Okra is crunchy when cooked quickly, but becomes almost mouth-wateringly tender when slow-cooked," Bheki said.

Passionate about farming, Bheki also grows organic butternuts, lettuce, mealies, spinach, green beans, sweet potatoes, peas and a variety of citrus, including pomegranates.

"I am currently busy with research in the cultivation of saffron (Crocus sativus) and fever tea/lemon bush (E), (Lipia javanica) and I'm super excited about my newest venture," Bheki said.

For more information about Manala Exotic Farm, call Bheki Mabhena on 082 540 6661.

Bheki Mabhena passionate farmer and owner of Manala Exotic Farm, with a yield of his organic Okra.

The ideal size when harvesting Okra is between 5cm and 10cm.

Bheki explained that when harvesting the Okra the pods must be crunchy when you break it.

The flying of a drone on your farm vs the Law

AGRI-PULSE – LICHTENBURG - With the advances made in drone technology over the last few years there has been lots of talk around the flying of drones and what sort of law should govern it.

In South Africa all aviation is controlled by the South African Civil Aviation Authorities (SACAA) including both pleasure and commercial aviation - this includes the use of drones whether it be for business or pleasure.

What if I want to use my drone to make money?

In order for you to use your drone in any way to generate money, gains or interests you will need to do your Remote pilot license (RPL).

In order to complete your RPL you will need to comply with the following:

1. An applicant should not be younger than 18 years of age
2. Applicants must hold current medical assessments
3. An Approved Training Organisation (ATO) for training must be identified
4. Foreign theoretical training will be approved and validated (ASK)
5. Only successful completion will be accepted
6. Applicants must pass the RPL practical assessment
7. Applicants must also pass Radiotelephony Examination
8. Achieved English Language Proficiency (ELP) level 4 or higher.
9. All applications must be submitted to the SACAA.

But what if I only use it on my own farm?

When it comes to usage on your own property a RPL isn't always needed.

As a unregistered pilot you are also not allowed to fly :

1. Near manned aircraft
2. 10 km or closer to an aerodrome (airport, helipad, airfield)
3. A drone weighing more than 7 kg
4. In controlled airspace
5. In restricted airspace
6. In prohibited airspace.

When you use your drone for pleasure there is no need to register it as you are not going to use it commercially.

But with some of the usages of a drone it might increase the weight which in turn might force you to get a license to operate it.

When it comes to the pros and cons of applying and doing one's RPL it might in the end come down to the amount you need to pay in order to get the license.

This in turn will make it more cost effective for a farmer to rather hire a company that already has their RPL and is registered with the SACAA for the bigger tasks like aerial applications, etc.

But for viewing your crops and looking for animals that might be lost, a pilot will not need a license as long as he stays in the parameter of a amateur pilot.

Performance of Santa Gertrudis bulls during intensive, long term feed tests

BY: MELVILLE FERREIRA – ARC-ANIMAL PRODUCTION,ARMOEDSVLAKTE

AGRIPULSE-VRYBURG:

Background - Due to a continuous rise in the population that is associated with an increased demand for protein, sustainable beef production is also becoming more important to ensure the demand is met over the long term. Together with the rise in the population, the natural resources are also under pressure and beef producers need to produce the proverbial "more from less". In South Africa, livestock production contributes substantially to food security.

The livestock sector is also a major role player in the conservation of biodiversity through a variety of well-adapted indigenous and non-indigenous breeds, as well as rare game species.

The South African beef industry is challenged by globalisation, increasing volumes and competition, strong industrialization of the value chain, shortage of skilled staff and pressures to meet changing customer needs.

Over the past years, the beef supply chain has become vertically integrated. This is where the producer, feedlot, abattoir and wholesaler are linked together. There are different value and supply chains. The direct participants who play a role in delivering the product to the market are the producers (farmer), feedlot, abattoir, wholesaler, processor, distributor and retailer. There are also other participants and contributors in the beef value chain such as providers of hides and skin, meat processors, imports and exports, spices, packaging, etc. The supply chain is also determined by the characteristics of the beef product and is very competitive. The partners and role players in this chain are highly dependent on each other. In South Africa, like in other countries, the beef industry contributes to food security and the nutritional well-being of the population. The slaughtering, processing and preservation of meat are key components of the value chain of the meat industry. The combination of decreasing hectares available for crop production, increased utilization of grain for fuel, increased input costs and an increase in feed costs are some of the key factors that highlight the changing dynamics of agriculture.

Due to the high feed costs, it is important to have a positive feed margin. A positive feed margin can be influenced by the feed price and the efficiency of growth (gain/kg feed consumed). This can be achieved by improving the average daily gain (ADG) and reducing the feed costs by breeding animals that utilize feed more efficiently. Feed costs amounts to 55% – 70% of the total production cost, and a 10% improvement in feed efficiency of animals may result in a feed cost saving of several hundred million rand per annum for the industry as a whole. Measuring efficiency will assist in decisions that increase productivity without increasing costs of production and will result in greater profit margins. Feedlot studies in the USA demonstrated that a 10% improvement in ADG as a result of a 7% increase in intake improved profitability by 18%, whereas, a 10% improvement in feed efficiency returned a 43% increase in profits. By improving feed efficiency, it will thus significantly contribute to a more sustainable and profitable production system.

Feed conversion ratio (FCR) is defined as the amount of feed needed to gain one kilogram of live weight. FCR is one of the traits calculated at completion at the end of all Phase C tests at ARC test centres. Bulls consume on average 3% of their body weight in feed per day and the average FCR in SA is 4.5 kg – 7.5 kg, which depicts the actual feed consumed to gain one kg in live mass. The less feed consumed by a bull to gain mass, the more efficient it becomes.

There is a highly negative (favourable) correlation between ADG and FCR (-0.60). The better the growth of the animal, the more efficient (lower) the FCR will be. When the feed intake of the animal increases, the rate of growth of the animal will also be enhanced, causing the correlated response in ADG. Genetic improvement in feed efficiency can be achieved through selection and in general, correlated responses in growth and other post weaning traits will be minimal.

As feed efficiency is important to improve profitability, the feed efficiency in young animals may differ from the efficiency of older, fatter cattle on a high-energy feedlot diet. Feed efficiency is heritable and genetic improvement is thus possible through selection.

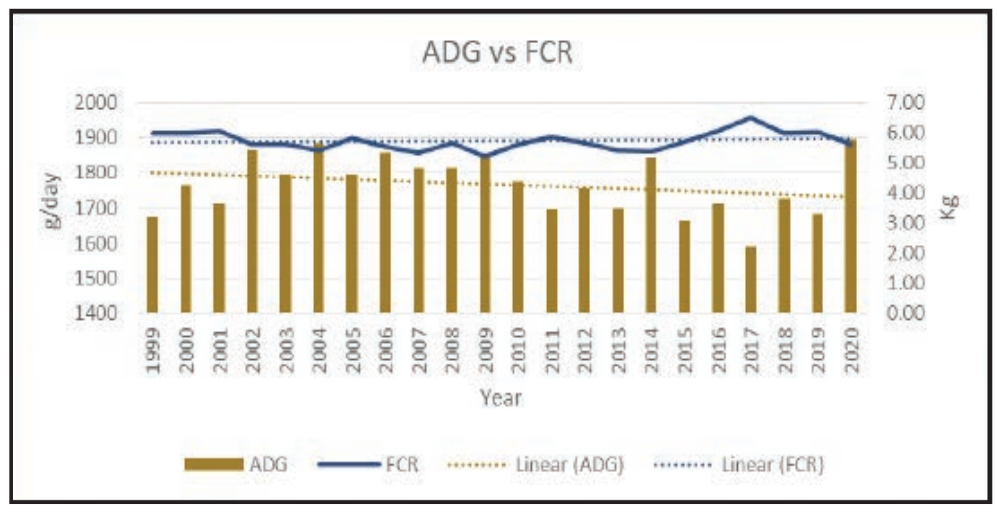
It should however be mentioned that when selecting for a low FCR and high ADG, over time your animals will become bigger, requiring more feed for gaining weight, growth and for maintenance. Since growth is of economic importance, e.g., weaning weight has a direct monetary value; farmers select for this trait to improve their profitability. Care should however be taken when selecting for higher weaning weights since growth traits are highly correlated. Care should also be taken to avoid heavier calves at birth since it may result in calving difficulties while heavier mature weights will require an increase in maintenance requirements. The feedlot industry produces approximately 75% of all beef produced in South Africa. This is approximately 1.35 million head per annum. Most of the meat consumed from the formal markets in SA, is produced from cattle in a feedlot system. A 1% improvement in feed efficiency has the same impact as a 3% increase in rate of weight gain. Improvements in efficiency of beef production are vital and necessary to sustain the cattle industry. The purpose of this study was to determine how the growth and efficiency of Santa Gertrudis bulls has changed over 20 years.

Research on Santa Gertrudis bulls under intensive conditions

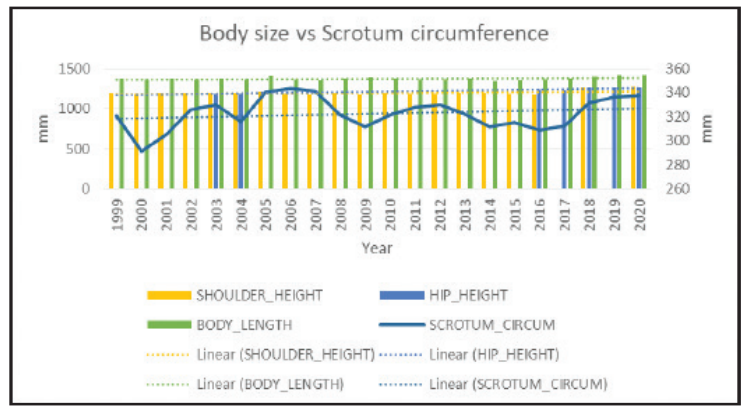
Bulls between the ages of 151 – 250 days are tested in a Phase C test. Performance data from four ARC centralized testing stations were analysed by the ARC in this study and Santa Gertrudis bulls tested during 1999 – 2020 were included. During the phase C test, the growth (ADG) and the efficiency (FCR) of bulls were measured. On the last day of the test, body measurements (body length, hip height, skin thickness and scrotum circumference are measured) were done. Breed inspectors also has to approve the bulls according to the breed requirements. Bulls are fed a standardized feed during the test period and receive feed ad libitum. Bulls were grouped according to the year within which their adaptation period of 28 days started. The reason why the bulls were grouped according to year was because most of them were not tested in groups. Data of 1 199 Santa Gertrudis bulls were analysed. The data was obtained from the INTERGIS. After the adaptation period of 28 days, bulls entered the intensive growth test stage for an 84-day period. At completion of the test, the results were compared to the 10-year rolling average for ADG and FCR per station and per breed. The 10-year rolling average, is the average of the performance of the bulls (within a breed) tested within the previous 10-year period. This is done to compensate for the environmental effect on performance. By comparing animals to the 10-year average, the effects of the environment are eliminated from the results. In addition, the management and feed ration are also standardized at all the central ARC testing centres. Summary

During 2014, the Santa Gertrudis Society moved away from measuring shoulder height to hip height. The global trend is however to focus more on RFI (Residual Feed Intake) since it is phenotypically independent of growth and body weight. The trait is also moderately heritable (18-49%) which enable us to improve feed efficiency by selecting for efficient animals. RFI is the difference between actual and predicted feed intake. The latter is an animal's maintenance requirements in relation to its body weight and growth. It is suggested that it may be more desirable to select for a trait such as RFI, since, by selecting for high ADG and low FCR, will result in bigger animals with higher maintenance requirements. Producers should take note that the frame size of the bulls remained relatively unchanged during this period. As the average FCR increase by only 200 grams, it must be taken into account that there might be other factors that may also have had an influence, such as genetics, feeding practice, environmental control or health status. Although there was a slight decrease in the ADG in the period assessed, it must be managed, because the faster an animal gains weight, the quicker it is ready for market, which can decrease input costs. The scrotal circumference that increased is however a positive outcome. Scrotal circumference is correlated with sperm motility and morphology and a good indicator of daily sperm production, especially in young bulls.

These results were obtained over a 20-year period from different bull test centres and are clear indicators of phenotypic trends for the different traits that are of economic importance.



Graph 1 - The relationship between ADG and FCR is illustrated. From the above graph, it must be mentioned that that ADG and FCR both changed over this period. ADG decreased marginally from 1.800kg / day to 1.720kg / day while FCR increased from 5.8 – 6.0kg. No significant differences were found for ADG and FCR (P>0.05).
In Graph 2, the comparison between scrotum circumference, shoulder / hip height and body length are illustrated.



Graph 2: The relationship between scrotum circumference, shoulder / hip height and body length are illustrated. From this graph the body length, shoulder / hip height remained relatively unchanged. While the scrotum circumference increased in size (318mm – 324mm), it is 6mm increase in circumference. Scrotum circumference is highly positively correlated to fertility.

The Zimification of South Africa and a punch-drunk society

By Jaco Kleyn

AGRI-PULSE – VRYBURG - In the past week, I have heard of countless businesses closing their doors. A business that has been part of the community for decades is closing because the pressure of continuous load shedding is simply too much. A chain store group that is particularly popular among the so-called "all-pay" group have to spend almost R 40 000.00 per week to keep their freezers frozen and to still be able to keep their doors open during load shedding. These additional costs cannot of course be recovered from shelf prices. All that remains is that branches that do not perform well enough will eventually have to close or alternatively that staff will have to be dramatically reduced. Both options stand directly against the government's promise that there will be a better tomorrow.

In the same week, I also hear the term "Zimification" for the umpteenth time. Usually it was around certain braai - fires and from across the parliamentary floor where the warnings of "another Zimbabwe" were often heard. But now, now it has become a word. The Zimefication of ESKOM, the economy, municipalities and in short of the whole country.

Simple things like toilet paper suddenly become something that is not always on store shelves. When asked, clients are told that the factories simply cannot answer the demand and that production is severely hampered due to load shedding.

Wasn't toilet paper one of the things that the prophets of doom at the time said we should hoard?

The President promises action. The President also says that the downgrading to gray status is actually a good thing and now gives us the opportunity to once and for all work against criminality. Why now one wonders? Why is this a good opportunity now? Could it really be that the government thinks that the citizens and the rest of the world have only just noticed that the Rainbow Train is derailing? The President promises a new minister. The Minister of Electricity. His or her job will be to curb the electricity crisis. The work that was supposed to be done by the Minister of Energy and also the Minister of Public Works. Don't forget the Minister of Police either. After all, the big problem at ESKOM is the absolute free rein that criminals have in every facet of that business. The President promises a Parliament shake-up, temporarily postponed due to a presidential cold and an Ankole farmers' day and auction on the very Presidents farm. The same place where, months ago, millions emerged from under the pillows in the living room.

Shouldn't the President promise a Parliament Renewal rather than a shake-up? After all, when I take water, coffee, milk and sugar and pour them into a container and shake it up, the basic composition is still water, coffee, milk and sugar. All that has changed is that I no longer call it by the respective ingredient names, but rather a cup of coffee. To change this mixture to, for example, tea, the ingredients must be changed. What does it help for the Minister of Police to be "shuffled" to become the Minister of State Security/Intelligence? Isn't it precisely this portfolio that must provide the SAPS with useful information to do their job properly? Is it not precisely this portfolio that must investigate, penetrate and finally eradicate the draconian consequences of crime syndicates involved in the entire ESKOM chain?

Meanwhile, there are farmers in the maize-producing areas who simply cannot guarantee that crops will be harvested successfully. They have the water, the implements, the equipment that is needed, but they do not have the electricity to get the water from the river or dam to the fields where it is so urgently needed.

What will happen when the rain does not fall at the right times and there is no electricity to irrigate corn fields? What will happen when more and more businesses close down because they simply can no longer handle the extra financial pressure of load shedding? What will happen when the crime gets worse than it already is? Is the government going to tell us again on a Sunday evening that it is all actually a good thing and that we now have a good opportunity to start from scratch? We started from scratch already in 1994. We all believed in the new beginning when Madiba and François Pienaar held up the World Cup and the crowd of South Africans made the pavilions shake with their singing of the national anthem. We all believed... but now, now we also believe that the Zimification of our once thriving country has become a reality. But we want to believe again. We, the overwhelming group of South Africans who together feel this crisis day after day, want to keep believing...

Decrease in agricultural sector employment a worrying sign

AGRI-PULSE – RUSTENBURG - Agri SA is distressed by the decrease in agricultural sector employment as reported by Stats SA in the Quarterly Labour Force Survey for Q4: 2022.

The report, released on 28 February 2023, shows a decrease of 12 000 jobs in the agricultural sector. Though the loss of jobs is marginal for now, it points to the increasingly challenging environment in which farmers operate. The sector has shown itself to be remarkably resilient and was counted among the best performing sectors even at the height of the Covid-19 pandemic.

But the tide is turning for one of the country's most labour-intensive sectors – rising input costs, endemic load shedding, and crumbling infrastructure is placing severe strain on the agricultural sector. The commitments made by the President in the recent SONA need to be an immediate priority to help save jobs and guarantee the nation's food security.

Clarity is needed on the regulations published for the State of Disaster on the energy crisis by the Minister for Cooperative Governance and Traditional Affairs. While food production and storage have been included as essential infrastructure, detail is needed as to what this entails and what relief it will provide for farmers.

Moreover, the extension of the diesel levy rebate must be accompanied by the fast-tracking of the processing of claims and a reduction in the onerous red tape currently hampering the system. This is the only way to alleviate the ongoing burden of loadshedding on farmers, preserving critical rural jobs.

Urgent action is needed to protect this sector and Agri SA remains committed to ensuring support for the sector so we can continue to provide both food security and livelihoods at this challenging time for South Africans.

Sunflowers early as the morning gold

With almost ridiculous levels of rain practically all over the country since the last quarter of 2022, one shouldn't be too surprised to note strange things happening in nature this year. The country has experienced torrential rain in at least five of its nine provinces during the current season and in North West this has resulted in sunflower fields coming into bloom considerably earlier than usual. Sunflower farmers can indeed look forward to excellent harvests this year. This photograph was taken earlier this week at Kroondal, just outside Rustenburg in North West.

National Minimum Wage: Impact on agribusinesses

AGRI-PULSE Hard-pressed agribusinesses battle to contain costs and maintain operational viability in the current economic climate which makes the sector vulnerable to the impact of large National Minimum Wage (NMW) increases.

The new NMW hourly rates published by the Minister of Employment and Labour on 21 February 2023 took effect from 1 March. The NMW rate increase from R23.19 to R25.42 per hour will have a significant impact on the agriculture sector. Agribusinesses are particularly vulnerable to large wage increases because it is a crop/flock-dependent, labour-intensive sector, where the scope to replace labour with machinery was once a real threat to job security. In light of the ongoing power crisis in South Africa - which was recently declared a National Disaster- the latter is no longer a viable option to employers.

Weak and unreliable infrastructure has also exacerbated the economic prospects of business for farmers, processors, and distributors in the industry, with many losses occasioned by the 2022 Transnet strike. Collectively, these factors pose a possible risk to food security in the region. On 13 February, the World Bank delivered an update on its website regarding food insecurity issues existing in various regions of the world, which has become an increasing concern given the high rates of inflation present in almost all low- and middle-income countries, which would include South Africa.

The decision to implement the wage increase must be balanced against these factors and the need to avoid job losses in the face of South Africa's high unemployment rate of 7.7 million (as reported by StatsSA in the third quarter of 2022). Against this backdrop, the NMW Commission's statement that all wage-earning workers ought to have a sufficient income to support themselves and their families at a socially acceptable and economically viable level is admirable. However, if other efficient measures for reducing poverty are not used along with the expanded NMW, it will be a rather ineffective tool for alleviating poverty in South Africa.

How the minimum wage increase impacts employers in the agriculture sector

Goal 8 of the United Nations' Sustainable Development Goals emphasises the imperative that all working individuals be provided with decent work to promote sustainable and inclusive economic growth in global society. There is a careful balance between alleviating poverty by increasing the minimum wage in line with the high cost of living occasioned by rising inflation rates, and the need to eradicate the unemployment crises in countries like South Africa which may worsen if employers are unable to meet minimum wage requirements.

Some sectors have unique collective bargaining approaches resulting in industry-specific agreements on rates of pay that cater for their production requirements and viability. If the increases prove to be disruptive to the viability and continuity of their businesses, employers in the agriculture sector may need to consider adjusting their working hours, engage in more rigorous collective bargaining to align with the new NMW rate, or engage legal advisors on their prospects to be exempt from the application of the NMW. Collective bargaining has often resulted in sector-specific solutions that address both the workforce and business needs.

Although raising the minimum wage is meant to raise workers' living conditions, it is important to consider any unintended implications for businesses, employees, and the economy at large.

By Dhevarsha Ramjettan (Partner), Joani van Vuuren (Senior Associate), Jamie Jacobs (Associate) and Kgolagano Legobye (Candidate Attorney) at Webber Wentzel

National Council of Provinces urged to reconsider risk to food security posed by the Expropriation Bill

AGRIPULSE – National Council of Provinces urged to reconsider risk to food security posed by the Expropriation Bill

Agri SA has submitted its comments on the Expropriation Bill to the National Council of Provinces (NCOP). The submission clearly signifies the potentially catastrophic impact of the bill on the agricultural sector and the country's food security if passed by Parliament.

The submission follows the passage of the Bill in the National Assembly, whereafter it was referred to the NCOP. Should the NCOP approve the bill, it will then be sent to the President for assent, whereupon it will become law in South Africa.

In its submission, Agri SA has made clear what detrimental impact the bill will have on the agricultural sector and greater economy. Agri SA is particularly concerned about the definition of expropriation as well as section 12, which deals with compensation for expropriation and specifically sections 12(3) and 12(4) of the bill. The weakening of property rights will make capital raising exceedingly difficult for farmers in a cyclical sector that depends on the ability to leverage property rights to access operating capital.

This undermining of the viability of both established, emerging and new producers could lead to a catastrophic collapse of the country's food security. South Africa already faces substantial threats to food production in the form of significant inflationary pressures, loadshedding, and deteriorating infrastructure. These challenges have been exacerbated by environmental phenomena including flooding, droughts and locust infestations.

Beyond food security, the Bill will also undermine the very objective it seeks to achieve: the transformation of the agricultural sector. Without constitutionally protected property rights, fewer emerging farmers will be able to access the capital needed to build sustainable farming operations. Established as well as new entrants into the agriculture sector will have to contend with a right in law that could at any moment be taken away from them.

The economic consequences of the Bill also extend far beyond the agricultural sector. With reduced food production will come the need for increased food imports to the detriment of our national balance of trade. The resulting net outflow of money from the local economy will be less revenue for the fiscus, leading to the diminution of desperately needed resources to rebuild the infrastructure and institutions, and to improve service delivery to the poorest in South Africa. In addition to the practical and economic implications, the bill is further defective with reference to the South African Constitution and out of step with constitutional democracies globally. The watering down of property rights has dire consequences, as has been so graphically illustrated in the destruction of the Zimbabwean and Venezuelan economies.

The potential ramifications of passing the Expropriation Bill are daunting. The country's food security and the viability of the labour-intensive agricultural sector in South Africa hang in the balance. Property rights are the cornerstone of economic development and Agri SA will use every tool at its disposal to ensure their continued protection under the Constitution of South Africa. We trust the country's representatives in the NCOP will heed this critical warning, and that government will reconsider this destructive legislative experiment.

South Africa Grey listed

The Financial Action Task Force (FATF) has placed South Africa on its grey list due to concerns about its capacity to fight financial crime.

However, FATF made it clear that South Africa has already made significant progress on many of the recommended actions to improve its anti-financial crime systems, including developing stronger national anti-money laundering and terrorism financing policies.

South Africa has committed to working with FATF to strengthen the effectiveness of its anti-money laundering and terrorism financing regime. FATF will closely monitor South Africa's progress in implementing this plan.

The priority now is to ensure that South Africa is removed from the grey list as soon as possible. It is worth noting that South African banks already follow global best practices.

What is grey listing?

Essentially, it means that banks will now be required to apply enhanced security to all payments to and from South Africa. It is not the same as a downgrade and does not have the same impact.

Why was South Africa grey listed?

An investigation determined that South Africa did not do enough to combat money laundering and the financing of terrorism. However, the grey list must be seen as an opportunity for the country to resolve these issues and be delisted. In other words, it's not permanent.

How long will this situation last?

On average, grey listing ends after 3 years of efforts by a listed country to fix the issues. There are positive exceptions e.g. Mauritius was listed in February 2020 for similar reasons and was off the list by October 2021. South Africa has to be delisted by the end of January 2025 and there is always the possibility this might happen sooner.

Our hosts Marna and Arno and their quite unique hamburger – absolutely sensational!

Smoked Wagyu & halloumi burgers with avo salad

Our hosts this month - Marna, Hannah (3), Tina (5) and Arno Kotze.

AGRIPULSE – NORTH WEST – Nobody needs to tell anyone from the SA farming community how to prepare a wonderful meal – these people are quite used to cattle, sheep, fresh produce and everything nice, so most definitely forget about fast food. But make no mistake – though exceptions are rare, it is not totally unheard of. It is old hat that people with the earth in their veins are known for the good appetites.

This week in our Tambuti Kitchen we introduce a couple who treated us to one of these exceptions – wonderful Wagyu and halloumi burgers with an avocado salad on the side. Our hosts are Marna and Arno Kotze of Rustenburg in North West – two young people who know their way around the kitchen. So here goes. (Enough for eight people).

Wagyu and halloumi burgers

Tap here on your electronic device or go https://bit.ly/burgermetmeerlyf

Marna is originally from Lichtenburg and knows her way around a kitchen.

Ingredients

8 x Wagyu Beef patties
8 x Smoked Halloumi patties
8 x Burger buns
Rocket
Gouda/Cheddar slices
Sweet & Smokey BBQ Sauce (Woolworths)
B-Well Canola Mayo Thick & Creamy
Hickory Liquid Smoke Extract
5 x Red onions
4 tsp brown sugar
Balsamic reduction - Glaze
Olive oil

Method

Cut the red onions in very fin strips and fry slowly in olive oil and a spot of salt for 30 min. Increase heat and ad brown sugar and balsamic reduction until caramelized and remove from heat. Dish a touch of B-Well Mayo into a small bowl and add 6/7 drops of Hickory Liquid Smoke Extract, stir well and taste. Not too much Smoke Extract though, it could easily go bitter. Fry Wagyu patties on stove in pan or open fire on high heat – make sure to add a touch of salt and pepper for extra taste. Halloumi slices are very easy – fry no more than 3 min on each side. It is a good idea to toast at least one of the burger halves slightly for more crunchiness. Now pack your burger: Spread with B-Well with Smoke Extract mix on buns. Add rocket, the Wagyu patties and a slice of Gouda/Cheddar cheese. Then add the halloumi slices and caramelized onions. Pour a little Sweet & Smokey BBQ Sauce on top half of bun and close.

Avocado salad

4 x avos (peeled and cut in halves)
Basil Yoghurt sauce
16 strawberries
Feta cheese cut in eight smallish strips
Balsamic Reduction

Balsamic Sauce
1 packet Basil leafs
1 garlic clove
Juice of half a lemon
1 spn Olive oil
4 big spns Double Thick Plain Yoghurt
Salt & pepper
Mix the above in mixer and voila!

Metode

Pour a spot of lemon juice over avocado to prevent it from turning brown and add salt & pepper. Fill Avo with Basil yoghurt sauce. Cut two strawberries for each half avo and add one strip of feta cheese. Pour over balsamic reduction and enjoy!

SA poultry edges closer to being a R60bn industry

AGRI-PULSE – RUSTENBURG - The second-largest agricultural sub-sector contributing to the economy in South Africa - the poultry industry – has grown to be a R59 billion industry over the last three years.

This is thanks to, mainly, additional investments made by the industry's participants.

At a recent State of the Poultry Industry Roundtable, the South African Poultry Association (Sapa) revealed that the industry invested R1.8 billion into growth in 2022 – surpassing initial plans set out in the Poultry Sector Masterplan (PSMP) to invest R1.5 billion by the end of last year. It added that the industry plans to keep this momentum going by investing an additional R600 million by the end of 2024.

Sapa reports that the industry responsible for producing one of South Africa's most consumed meat proteins also managed to create 1900 of the 3600 new jobs it set out to create between 2019 and 2022, while a further 2000 new jobs are believed to have been created throughout the value chain during the period.

Industry in distress

According to Sapa CEO Izaak Breitenbach, despite notable progress in the past year, the short to medium-term outlooks suggest that the industry is in for tough times. He added that Covid-19 had a material impact on this industry. "We also had a highly pathogenic avian influenza and we culled three million birds – not our broiler birds, not the slaughter birds, but the birds that we use for breeding. We also had extremely high raw material prices; these prices are at record levels and that impacts the industry negatively," Breitenbach added. Load shedding alone is costing poultry producers 75 cents per kilogram of chicken produced, according to Sapa, chipping away at the R29 that producers are believed to be making on average per kilogram sold.

This cost adds to the industry's already spiralling expenses, fuelled partly by higher feed prices and losses sustained due to the avian flu outbreak. "If we talk about the medium term and the short term, we see an industry in distress, an industry that's losing money," Breitenbach said. He then added that raw material prices are at a record-high, causing chicken prices to climb.

According to him, consumer demand at present is down due to the high prices of chicken and cold storage facilities are full of chicken.

Output shortages

Another load shedding-related issue costing farmers is the disruption to slaughtering schedules. Because of erratic power outages, farmers are often unable to slaughter birds once they reach the desired maturity.

This has caused a backlog, which results in birds growing older in broilers, meaning that farmers need to spend more than they budgeted on feed. To cut down on this backlog, Breitenbach says farmers have had to stall egg hatchings, but this impacts negatively on product output. "That reduced production. The value of the reduced production was 13 million birds during December and January. That is extreme and that is not reflected in the [load shedding cost] number that I have used of 75 cents per kg of chicken produced."

Price battle

According to Sapa, between the second and third quarters of 2022, the price of chicken giblets, whole fresh chickens and frozen chicken portions - non-individually-quick-frozen - increased by 9%, 6% and 2% respectively.

"The prime driver of prices in the industry is feed cost or raw material cost. At present, there doesn't seem to be any relief in terms of raw material cost on the horizon and that will keep the pressure on price. This fundamental needs to change for prices to reduce," Sapa said in a statement. However, according to the industry body, much of these price increases – driven by elevated raw material costs – are being subsidised by the local producers, with an assessment of consumer behaviour revealing that consumers are growing more resistant to price hikes. Even though experts believe that the consumer has survived the bulk of price increases, further price hikes may be on the cards as long as producers battle strenuous cost pressures.

Aseel Game

AGRIPULSE – RUSTENBURG - The Aseel had its origin in Asia and is classified as a light breed, Asian hard feather.

The large Aseel male weighs between 1,8 to 2,7kg, females 1,3 to 2,3kg while the bantam male weighs 900 to 1360g and bantam females 720 to 1100g.

The Aseel is one of the oldest game foul breeds in the world and is mainly found in India, Pakistan, Bangladesh and Sri Lanka. Aseel is mainly bred for endurance fights with either natural spurs or shortened spurs, the stubs covered with linen bandages. Therefore the Aseel is compact, muscular and powerful with a strong beak, with white or yellow horn colour, muscular neck, powerful legs and thighs, shanks thick and square with noticeable indent line where the front scales meet, white or yellow in colour, dark in blacks, however they must always show whitish or yellow under the feet.

Hens are poor layers, very good sitters and mothers. Carriage of an Aseel is upright, standing firmly and well on its legs. When viewed from the side, the eye and point of middle toe is almost in a line. The body is muscular and compact, hard and no fat, broad shoulders, wings are prominent, carried near the body with hard feathers, wings tips pointing towards the vent. Red flesh shows through on breast, thighs and wing joints. Sickle feathers narrow, drooping from the base, not carried above horizontal line, pointing downwards.

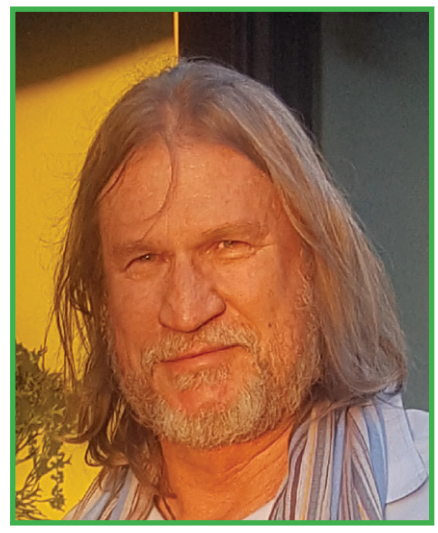
The head is rather small, compact and square, prominent eyebrows and cheek bones, embedding the eyes. Eyes are iris like lustrous pearls, slightly yellowish, greenish, blueish, cream or white. The comb is bright red, triple or peacomb, short and low, wattles absent.

The crow differs from other breeds, being short and cut off at the end.

Colours of Aseel are Dark red, Light red, spangle, gray, black, white, ect.

The Rustenburg Poultry Club hosts shows and this exciting hobby can be enjoyed by young and old. Enquiries, whatsapp or SMS Sarie 072 227 8031 or Dawie 071 196 7696.

Molomo monate – Sweet words



Naas Grové

AGRIPULSE - NORTH WEST - The *Sclerochiton ilicifolius* (spiny white-lips/stekelwitlippe) species has a very limited and scattered distribution with the main area of distribution in the rocky hills of the Waterberg and the Zoutpansberg mountain range in the Limpopo province. There are also isolated populations of the species in the Mpumalanga province in the area near the Blyde River Canyon Nature Reserve and near the Abel Erasmus Pass. The plants grow as stunted shrubs in sheltered positions on sandstone sheets, between rocks and beneath other trees in quite steep ravines.

The tree belongs to the *ACANTHACEAE* (Lipflower)-family, mainly herbs and shrublets with ~12 species reaching tree size. The flowers are conspicuously 2-lipped.

The roots of the plants are chewed by local communities. They refer to this phenomenon as “molomo monate”, loosely translated as “making one’s words sweet”. The sweet compound monatin (after molomo monate) has a sweet, pleasant taste. It was originally isolated and extracted from the bark on the roots of this species, and according to studies done by the CSIR, 1 400 times sweeter than normal sugar and has the distinction of being a natural non-carbohydrate sweetener with almost no calories. Another benefit is that there is no harm to teeth by consuming the sweetener. Because of the chemical configuration of monatin, some roots are very sweet, and others are almost bitter to our taste buds.

The common Afrikaans names “soetwortel/stekelwitlippe/satansbos” are very descriptive of the sweet taste of the roots and the deeply toothed leaf margin, each tooth armed with a very sharp slender spine.

The Shongoane and Seleka communities in the Waterberg District of the Limpopo province received financial payments as the indigenous knowledge holders of “molomo monate”, as its sweetness was apparently first discovered by these communities near Lephalale and they belief that chewing the roots will bring reconciliation between two parties.