

POULTY
BUILDING
THE TECHNOLOGY ISSUE

OFFICIAL MAGAZINE OF THE SOUTH AFRICAN POULTRY ASSOCIATION

IT'S OUR SECOND BIRTHDAY! HIP HIP, NOG 'N PIEP, HOORAY!



Strategies to survive loadshedding

LESSONS IN TECH

We support

VAT-FREE chicken

HOW A MARKET LEADER STAYS ONE STEP AHEAD

EGG-GATE!

WHY NEW ZEALAND RAN OUT OF EGGS

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The energy crisis affects us all, but it is truly hair-raising to hear of the millions spent on diesel during loadshedding to keep poultry production going. If the state can bail out Eskom with billions after it mismanaged taxpayers' money, why can't we ask that this efficient, productive industry that works day and night to provide South Africans with their most affordable, most loved animal protein, also get a break?

The industry is not asking to be bailed out. We'll do it ourselves, poultry people say – just stop taxing us on the diesel that we need to keep working because the state energy provider can't give us the electricity that we still pay for. Give us tax relief on the feed that we need more of because loadshedding disrupts our slaughter schedules, they say.

We devote our bumper second-birthday issue to the resourcefulness of farmers. In keeping with our technology theme we unpack these challenges and highlight some of the technologies rolled out by the poultry industry to stay on top of the wave and ahead of the curve. Give a farmer a challenge and watch the plan unfold!

Have a slice of cake on us, and enjoy this issue!

Melinda

editor@poultrybulletin.co.za

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FROM THE BOARDROOM

A call for no VAT on chicken

The poultry industry has never been in a more precarious position in my 35, 40 years of experience. Between global feed costs, the exchange rate, extreme weather and avian flu, farmers are reeling. Over the past three years we have collectively invested around R1.8 million in growing capacity to uphold our end of the bargain as we promised at the masterplan table.

Unfortunately the government failed to keep its promise to create an enabling environment, deciding instead to postpone the recommended import tariffs.

Now on top of that comes loadshedding. At Astral we plan 2.5 years, and four generations of chickens, ahead to ensure smooth delivery to our customers. It is impossible to adjust at the end of the process, when those millions of chickens need to get to market. Loadshedding disrupts slaughter schedules, chickens have to be fed for longer, and they grow older, bigger and more expensive. The market doesn't get the smaller chickens it wants, KFC closes some of its outlets... and the poultry industry, pouring money into diesel for generators, sees its paper-thin profit margins disappear into the red.

We currently subsidise the consumer with around R2/kg, because we know that people are struggling. But something will have to give. The industry might have to scale down production to control costs. That would lead to job losses. Food security will suffer.

Our industry produces a commodity that meets an essential part of the nation's nutritional needs, yet there is a view that it is somehow a charity product. But just like banks and car manufacturers and cell phone services, supply and demand has to determine the price of chicken. Any effective business has to be allowed the opportunity to recover its production costs in the market.

We support the renewed call for the VAT exemption of chicken, as the animal protein that makes the most sense for the majority of our population. Any politician who really cares about people's health would have to agree that tinned fish, currently the only animal protein in the VAT-free basket – is not what South Africans need.

Chicken – a whole fresh chicken, straight off the production line, or a frozen whole chicken, or 2kg of IQF – belongs in that basket, for its nutritional value, its affordability, its



'Tinned fish, the only animal protein in the VAT-free basket, is not what South Africans need. Chicken belongs in that basket'

sustainability. There would not be a direct benefit to the industry, but it would help the consumer. Indirectly farmers might benefit from increased demand for cheaper VAT-free chicken, which could stimulate the market. And then, maybe, the investments that were made can be kickstarted into production.

The last time we at Astral called for VAT-free chicken we were asked, but what about the R2 - R3 billion in tax that the fiscus would lose? To repeat, we are not calling for processed chicken to be included, rather as mentioned before, the primary product. As for where to find the extra money – there is the billion rand that is said to be stolen at Eskom every month. If theft and misappropriation was stopped, the funds would be there.

We are a resilient industry and we know that this too shall pass. What we don't know is who will be left standing when this storm finally blows over.

Chris Schutte

CEO, Astral Foods



LETTERS

Readers share stories of challenges and achievements, and a birthday wish!



Boer maak 'n plan

I'm a 29-year-old farmer and this is my story. Puthing Poultry Farm started because I had a dream to farm chickens. At first it was a joke, but when it kept making scenes in my head I knew I had to do it. I had little knowledge, no experience and no space to start the production, so I had to use my bedroom at my parents' house in Evaton West to grow them!

I started with 50 chicks, and when the business was growing I rented a plot in Vanderbijlpark. But there the challenge was greater! Floods, chickens dying and losing money did not bring me down because the

100 chickens per cycle to 300 at the moment, and I hope to get to 1 000 per cycle by the end of 2023. My first customers were households and now I am also supplying resellers, including mini restaurants and chisanyamas in the township.

To grow I need bulk feeders, drinkers and crates, and affording those is my ongoing challenge. But transport is my main difficulty at the moment - I use my bicycle to deliver to my customers. Until I get a proper vehicle, I will use what I have!

Molantoa Motaung

Puthing Poultry Farm, Evaton West

Postal woes overcome

Thank you very much for the electronic copy of Poultry Bulletin - I'd been wondering how will I ever be able to get hold of and read the publication again since I've not been able to get the hard copy as services at our rural post office were terminated.

As always I've always looked forward to reading the publication and getting new information on the developments in the industry.

We welcome the innovation!

Lindiwe Nxumalo

Send your letters to editor@poultrybulletin.co.za



Happy birthday, Poultry Bulletin!

This time two years ago, I paged through the first issue of *Poultry Bulletin* with much interest. While an official publication has been part of SAPA from the association's earliest days, it was clear that the new magazine was hatched from a different egg altogether.

Twelve issues on, it is gratifying to see how the magazine has grown into its role as SAPA's mouthpiece without ever sacrificing relevance or newsworthiness, and with a great sense of humour. *Poultry Bulletin* provides varied perspectives on our industry, from the largest integrated producers to some of the smallest independent farmers, and keeps an eye on international developments and influences.

SAPA is proud to be associated with this publication. The awards it has won in its short

lifetime shows that our appreciation is validated by communication and publication experts and professionals.

Thank you to Melinda Shaw and her editorial team for doing our industry proud and carrying SAPA's message so clearly and professionally. I look forward to all the editions still to come.

Aziz Sulliman







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Loadshedding: the centre cannot hold

By **Hamlet Hlomendlini**

Power cuts have long been a concern in South Africa, but in 2022 they became even worse, with 205 out of 365 days marked by blackouts. So far this year, loadshedding has not just been occurring daily but also more severely than ever.

As a direct result there have been numerous reports of considerable collateral business disruptions, permanent business closures, and unprecedented economic losses for those who continue to operate. As a sector, agriculture and its commodity value-chain activities such as irrigation, storage and processing of crops as well as livestock production – particularly in the poultry industry – are all negatively impacted, with small operators suffering the most.

South Africa's moderate climate makes it one of the most competitive agricultural producers in the world, and it is ideal for farming a variety of crops and livestock, including poultry. Poultry farming is a significant source of revenue in our country, not just for the producers themselves but also for those employed along the industry's long value chain.

The poultry industry also plays a vital role in providing South Africans with their daily protein requirements. As the most affordable sources of protein, chicken and eggs are in high demand, as beef, lamb and other meats are out of the reach of many consumers.

Furthermore, it was expected that South Africa's chicken meat exports for 2023 would increase by 4%, as the situation with animal health improves and demand from markets in Southern Africa remains substantial.

However, this may now not materialise as the industry is suffering under the continuing power crisis, whose consequences have started manifesting themselves in various ways as farmers face losses and struggle to keep afloat.

Poultry production require an artificially controlled environment, where appropriate internal temperature, relative humidity, ventilation and lighting inside a chicken house must be maintained for the survival and growth of



'The consequences of the ongoing power crisis have started manifesting in various ways as farmers face losses'

broilers and layers alike. None of these can operate without electricity. It is therefore not surprising that we have recently seen disturbing stories of birds dying.

On the other end of the production spectrum, abattoirs are experiencing enormous backlogs as a result of not being able to operate on a full schedule. And this is not likely to be resolved anytime soon.

Those poultry farmers who can afford to are relying on diesel generators to keep operations going, but the exponential and continuous effect on operating costs will have consequences.

Farmers and other players along the poultry value chain are currently operating at a loss or making razor-thin profit margins. Soon this will start to affect the consumer too, when even the most affordable protein source becomes a luxury item.

Hamlet Hlomendlini is the secondary agri head at Absa Bank Limited Rounding up the highlights from South Africa's poultry producers

Compiled by Charmain Lines

Nutri invests in top-end science





Dr Franscois

Nutri Feeds' broiler-research

capability has been increased significantly with a new 128-pen trial research facility in the small town of Derby in North West, where feed and feed-application technologies can be screened and tested before being implemented on CBH's broiler farms.

Sixteen different feed treatments with eight replications per treatment can be tested at any one time at the facility.

Dr Franscois Crots, group technical manager at Nutri Feeds, says that

South Africa's broiler operations are quite unique in that many farm at 1 350m to 1 600m above sea level, whereas our global peers mostly farm at between 50m and 500m. "As a result, South African broilers breathe air that is less oxygen-rich and are therefore more prone to metabolic disorders. This means we need local feed solutions."

With its new facility, Nutri can now formulate a tailor-made diet for South Africa's "Olympic athlete" broilers.

The facility is also ideally positioned

to evaluate and review global technology solutions. As an example, Nutri and its global technology partner, Cargill, have already completed a first joint trial where broilers were fed different feed and water treatments. The trial identified molecules that can increase good bacteria that result in healthier and more efficient broilers.

take swabs for microbial screening

In addition, the research facility will be used to increase Nutri's talent pool with an internship programme for students doing their master's and PhD degrees in agriculture.



Farewell to an egg pioneer

It is with sadness, but also appreciation, that the South African egg industry bids farewell to Johan van der Schyff senior, one of the founding members of TopLay, who recently passed away at the age of 79.

Van der Schyff was one of the 16 inaugural members who established Highveld Eggs in 1987 with the vision to bring eggs to the market under one dedicated brand. Having grown into a national egg supplier, the company changed its name to TopLay Eggs in 2014.

According to Johan van der Schyff junior, chickens were an abiding passion in his dad's life. "He often told me how he kept chickens as a child on his father's farm outside Ventersdorp. On weekends he drove into town with his

dad to sell eggs and buy feed with the proceeds, always making sure there was enough change for a sweet and a cold drink."

In 1994, Van der Schyff's business was the largest independent egg farming operation in SA, but when ill health forced him to slow down in that same year, he sold his farms to family members and bought a smallholding in Plettenberg Bay. What was meant to be a property investment became the nucleus of a new egg-production enterprise, and when Johan junior finished school in 2001 he joined his father full time. Together the two built another mega egg business across the Eastern and Southern Cape. "My dad had a head for business and was always one step ahead in his thinking." 7

Daybreak lends a hand





A few weeks ago, a truck transporting slaughtered chickens from Olifants-fontein on the East Rand of Gauteng to Balfour in Mpumalanga lost its load near Delmas on the R50 road.

Given Daybreak's significant presence in the area, the company was informed of the incident. Although the truck and its load were not from any of the Daybreak Farms operations, the chicken producer sent a clean-up team to the scene to clear the road from the Delmas abattoir and through the town. Employing its expertise, Daybreak's involvement helped to avert any potential health risk and environmental impact.

Other stakeholders and businesses lent a hand to clean the road from Delmas through to Balfour.

CHICK OF THE MONTH



A feisty fighter from India

The Aseel (or Asil or Asil) chicken is indigenous to India but has, over the past 300 years, found its way to other parts of the world. The Aseel is regarded as the world's oldest game-fowl breed, a fact alluded to by the breed name that translates as "purebred" or "from pure descent". They are referred to in written records dating back to 1 000BC.

Although they are show birds rather than fighters these days, the males of

the species remain aggressive. So aggressive, in fact, that male chicks have to be separated early on to prevent them from picking a fight over territory.

The hens are more prone to living in harmony – except when protecting their chicks. They only lay around 40 eggs a year, but have strong broodiness traits and make excellent mothers, keeping their slow-maturing chicks close for up to a year.

Aseels aren't fast meat producers either, but they make up for it with meat that is known for intense flavour, firm texture, low fat content and nutrient richness. They are also exceptionally hardy and able to thrive under adverse climatic conditions, which explains their status as one of India's top indigenous breeds.

CCCHICKENS ON A QUEST FOR SUPERIOR QUALITY

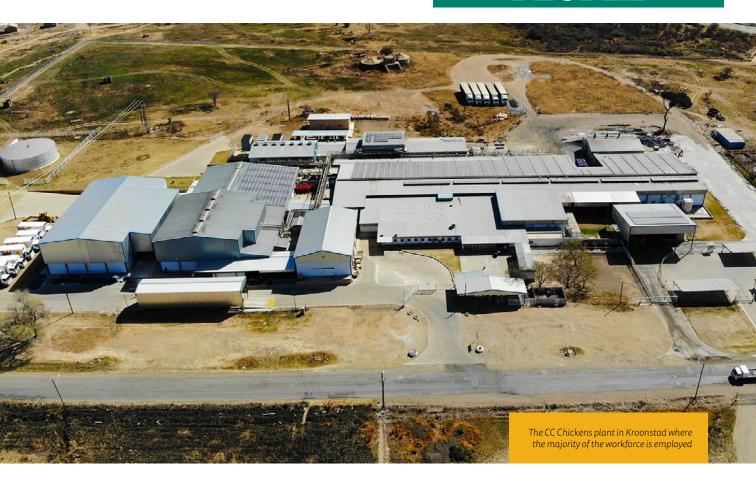
In every corner of South Africa, poultry farmers have invested in infrastructure to grow capacity in line with the poultry masterplan's requirements. This year, a collective called CC Chickens based in the Free State is celebrating 25 years in the business and building its dream to become the providers of the best chicken in South Africa By **Melinda Shaw**



When four broiler farmers in the Free State decided in 1998 to pool their resources and start their own abattoir, a business was born that today is one of the largest employers in the Kroonstad area. CC Chickens started by slaughtering the 12 000 birds the four partners collectively produced on one of the farms, Dunfermline, near Koppies. When an abattoir became available in Kroonstad, they took the plunge, bought the facility, and CC moved to town.

Today CC Chickens produces around 325 000 chickens per week or 2.4 million per cycle, and employs 515 people, soon to escalate to 375 000 chickens and 745 jobs, according to chief financial officer Belinda Jordaan. Only one of the original four farmers is still involved, she confirms, but there are now 10 shareholders and one contract grower contributing to the

POULTRY PEOPLE



output of the company. The contract grower is an emerging farmer who was the beneficiary of a government land grant that came about in 2015 when government purchased a farm that one of the shareholders put on the market upon his retirement. The new farmer had never farmed before, and CC took him under its collective wing and has mentored him over the past eight years, an ongoing empowerment project for the company.

Says Jordaan, "In addition to broiler production and the abattoir, CC also has a broiler breeder operation that currently supplies 70% of our broiler chicks, a processing plant, a small value-added division with a retail component, and a distribution division." The majority of their customers are wholesalers in Gauteng, the Western Cape and KZN, to whom CC supplies whole chickens and various chicken portions according to the clients' specifications, including product for export.

DID YOU KNOW?

CC stands for "Christ Crowned" – the company's ethos has always been grounded in the shareholders' steadfast faith. "We have one retail store in Kroonstad, Golden Chickens, where we sell more affordable cuts direct to the public," says Jordaan. "This is also where our small added-value division is situated, and there we have a team of ten producing a range of value-added products such as deboned flatties, deboned and filled thighs, chicken rolls and more. We supply local delis, restaurants and catering businesses."

The company's growth had been in steady increments since the early days, and according to financial manager Danie van Zyl it was in 2018 when the real turning point came, which showed the shareholders just how bright the future could be. The previous two years had been tough for everyone in the poultry industry due to a countrywide drought and a massive surge in feed prices, "but then it rained, feed prices went down, and we turned a huge profit which we could reinvest in the company", says Van Zyl. "That is poultry farming for you – there are so









The profits were invested to upgrade the abattoir, including a new cold store and hi-tech new technology

many factors outside of your control, and you never know what the next year is going to bring. In a bad year when the feed crops are poor, your input costs skyrocket and your margins can dip into the red, and then the very next year, a good rain can bring a bumper maize crop which lowers feed costs and, hallelujah, you can turn a big profit.

"The secret to surviving and thriving in this volatile industry is to be very strategic and to make the most of the good years. Saving to

have a buffer for the lean years is so important, and investing in growth is one way of creating that buffer by building a stronger business."

The profits generated in 2018 were all invested to upgrade the abattoir, which involved the construction of an extra cold-storage facility and the purchase of hi-tech new equipment, including an automatic evisceration system and a multihead weigher. The increased efficiency saw production rise from 36 000 birds processed per day to 40 000, then 50 000. "Every 18 months or so we've been able to grow capacity with 10 000 more chickens per day," says Van Zyl. The new technology improved the hygiene scores as there was less handling of meat by human hands, and also cut down on expensive overtime, which improved the bottom line. CC's workforce who had manually weighed and graded the chicken could also be upskilled as many of the more basic tasks were now automated.

Empowering the workforce became a focus point in 2019, and a large-scale training programme saw hundreds of employees being trained in poultry production and in artisan skills such as electricians, plumbers and mechanical fitters. Van Zyl believes that upskilling the team is one of the secrets of the company's success. "Being given the opportunity to develop their abilities and grow within the company builds morale like little else, and having a

POULTRY PEOPLE

motivated workforce is a key asset, "he says. "Take Frida Makoela, our assistant abattoir manager – she started on the floor, sorting carcasses, and over the course of a decade or more she has risen in the ranks to become a valuable member of our management team."

To further support its workforce, the company

opened a clinic in 2019, where it offers primary healthcare and counselling services. "About 350 employees have consultations every month in the clinic, and our onsite counsellors see another 150 or so who need help with social or psychological issues," says Jordaan. "Having the clinic was a huge help during the Covid pandemic." The clinic also serves businesses outside CC Chickens.

As is the case with many of South Africa's poultry companies, CC Chickens is very involved in the surrounding community. Fresh chicken is provided weekly to local homes for the elderly and disabled in Kroonstad, and help of a practical nature is also offered, with the CC team rolling out maintenance work and improvements at the facilities. Says Jordaan, "We also assist the local municipality where we feel we can make a difference to improve infrastructure for the benefit of the community. Upgrading the town's pool was one such project where we sent in our construction team, and Kroonstad now has one of only two public swimming pools in the Free State where local school galas can take place."

What is next for CC Chickens? In the immediate short term, more growth in capacity is coming very soon. A new automatic cut-up line from Foodmate in the Netherlands is arriving any moment, and by end of April a second daily shift will be added, providing work for 283 new people, says Van Zyl. "Our capacity will then increase to 400 000 birds per week."

Looking further ahead, the dream is to complete the value chain by adding a value-added plant. "However, that is a R60 million project, so we need several years of solid profits before that can be progressed," says Jordaan. Her

After CC sent in a construction team to upgrade Kroonstad's public pool, it can now be used for local school galas

colleague Van Zyl adds, "The instability caused by the energy crisis means that further expansion plans are on hold for right now. A diesel bill of around R900 000 per month for our generators is severely affecting profitability. We only slaughter five days a week, so we have the advantage that we can catch up by adding an extra shift on a

Saturday if loadshedding disrupts the cycle, and so far that has enabled us to keep all our delivery deadlines. But the unpredictable electricity situation requires caution right now."

It is all about efficiencies at CC Chickens, working smart and focusing on the detail. Jordaan and Van Zyl agree that the aim is to keep improving their offering. "We will never be able to compete on volume with the really big producers, but because we are smaller we can keep a close eye on every aspect of the business, and compete on quality. That is where our focus lies – our dream for CC Chicken is to produce the best-quality chicken in South Africa."



CONTACT DETAILS

CC Chickens head office: 056 213 3202

Sales: 056 212 1041

Insider information supplied by SAPA to all members, in an easy-to-digest summary

Compiled by Michael Acott

Chicken returns to most affordable spot



Chicken may be

heading back to its rightful place as South Africa's cheapest source of meat protein.

This has mostly been the case in previous years, but in early 2022, pork became cheaper than chicken. In the third quarter of last year, SAPA's Key Market Signals report showed that average pork producer prices for the year to date (R26.45/kg) were below average broiler producer prices (R28.93/kg).

Pork's brief supremacy could be about to end. The first 2023 livestock report from agricultural trend analysis company AMT shows that in the fourth quarter of

2022, chicken was once again cheaper than pork.

The reason is that pork producer



prices rose steeply last year, and particularly in the fourth quarter, while poultry price increases were more moderate. The increases in the prices of pork for 2022 were above 20%, while chicken prices rose between 8% and 13%.

AMT said producer prices for frozen chicken averaged R31.89/kg in the fourth quarter of 2022, an increase of 3.03% on the previous quarter and 9.51% higher than the previous year.

ration: Shutterstock

Fresh chicken averaged R33.14/kg, which was 4.21% higher than the previous quarter and 8.44% above the price a year previously.

IQF frozen portions averaged R31.20/kg, an increase of 4.3% over the previous quarter and 13.76% above the price in the fourth quarter of 2021.

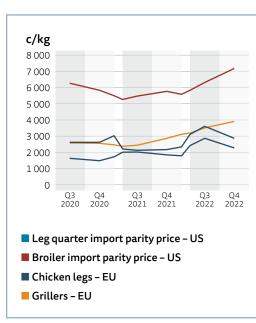
AMT said that, based on historic trends, the prices of all three chicken categories could trend sideways in the first quarter of 2023.

On the other hand, it expected all pork categories to trend upwards in early 2023.

Pork baconers averaged R34.07/kg in the fourth quarter, porkers R35.36/kg and sausages R27.88/kg.

Producer prices for mutton were between R68.85/kg and R89.41/kg. Beef producer prices in the fourth quarter were between R49.34/kg and R59.97/kg.

Poultry import parity prices ▼ Source: AMT



Feed prices should drop by mid-2023

Feed (raw material cost only)	Randfontein		Pietermaritzburg	
	Price (R/ton)	y/y % change	Price (R/ton)	y/y % change
Broiler starter	7 028	7.1	7 168	7.0
Broiler grower	6 787	8.9	6 923	8.7
Broiler finisher	6 722	7.1	6 858	7.0
Pullet grower	5 878	8.5	5 993	8.3
Layer	5 472	10.1	5 605	9.8

Forecast feed prices to July 2023
Source: SAPA

Poultry feed prices, which have risen sharply over the past 12 months, are expected to moderate slightly by midyear, according to SAPA's latest feed-ingredient report.

The report uses December 2022 as a base and provides an outlook to July 2023.

Based on the opinion of an independent consultant, the report forecast that the Randfontein price of yellow maize in July would be R4 501/ton, a year-on-year increase of 3.6% but a decrease on the estimated December price of R4 856/ton.

Sunflower oilcake was expected to be R7 950/ton in July, a 43% increase over the previous year and down from R8 900/ton in December. Soya meal was forecast at R10 367/ton, up 6.4% year on year, and an increase on the estimated R10 200/ton price in December.

Fishmeal was forecast to remain unchanged at R25 000/ton, which in July would be a 13.6% increase over the price a year previously.

The forecast feed prices per ton for July were: broiler starter R7 028, an annual increase of 7.1%; broiler grower R6 787 (up 8.9%); broiler finisher R6 722 (up 7.1%); pullet grower R5 878 (up 8.5%) and layer R5 472 (up 10.1%).

The rand/dollar exchange rate is one of the drivers of grain prices. The report was prepared when the rand was trading at R17.15 to the US dollar. At that time, the forward prospect for the rand was a trading range of between R16.80 and R15.50/\$ for the short term.

The report noted a shift in exports from yellow maize to white maize, and a big move away from white-maize usage in the feed industry to the less expensive yellow maize.

Expanding South African production of soya beans meant the country is nearly self-sufficient and should be able to meet local demand for meal and full-fat soya.



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 Traders who buy spent hens from the cull trade require permits, as a safety measure against avian flu

The cull trade is thriving

Nearly 1.8 million live chickens

were purchased by cull traders and distributed in South Africa's informal markets in the fourth quarter of 2022, according to the latest cull-trade report by SAPA.

Laying hens and broiler breeders that reach the end of their production cycles are sold live off the farms into the informal economy. These transactions create many jobs in townships and rural areas and also contribute significantly to food security in these areas.

The trade has been regulated since 2017, because of the risk of transportation spreading avian influenza. Permits are required, and farmers and traders should report all transactions.

SAPA encourages all poultry producers and cull traders to comply with the protocols regulating the movement of live birds. The regulations aim to limit the spread of viruses and to effectively contain any outbreaks of avian influenza.

The cull-trader database has the potential to assist with traceability in the event of an outbreak.

Photograph: Elaine Banister Photography



VetAssure[™] surface ATP: Your on-farm biosecurity verification solution

By Anné Calitz, business development manager sub-Saharan Africa, BioChek

ith an increased focus on biosecurity due to disease transmission risks and severe disease outbreaks, producers and production companies need a tool to help verify and track the successful implementation of hygiene and sanitation protocols as part of their biosecurity plan.

The VetAssure™ biosecurity verification solution helps veterinarians and producers to verify cleanliness and biosecurity procedures for facilities, personnel, deliveries and livestock trailers. The VetAssure™ surface ATP test uses bioluminescence technology to identify and measure adenosine triphosphate, commonly known as ATP. This measurement helps producers to objectively determine from a microbiological level if a surface has been cleaned properly, or if it requires a corrective action such as a recleaning.

This all-in-one test contains a prewetted swab bud for optimal sample recovery. A unique, liquid-stable reagent provides superior reproducibility and robustness of the ATP measurements.

What is ATP?

ATP is an energy molecule found in all living cells that allows cellular metabolism to take place. All organic matter contains ATP. Therefore, the detection of ATP on a surface after cleaning is an indication of cleaning efficacy.

What is bioluminescence?

BioChek's VetAssure™ ATP tests contain the enzyme luciferase, which produces a bioluminescence (light-producing) reaction when it comes into contact with ATP. The light emitted from the reaction is measured and quantified in the luminometer. The unit of measurement for the emitted light is relative light units (RLU).

The quantity of light generated by the bioluminescence reaction is directly

proportional to the amount of ATP present in the sample (higher contamination = higher RLU). The reaction is immediate, allowing results to be processed in ten seconds. Results are expressed numerically on the screen in RLU.

Studies have shown that the ATP bioluminescence method is useful and efficient in evaluating the cleanliness of various surfaces in farm environments.

Potential uses include:

- Determine the cleanliness of surfaces such as floors, feeders, enrichment material, nipple drinkers, and walls from farms and animal transports.
- Highly accurate and costefficient alternative to microbiological methods for rapid on-farm/on-trailer assessments.
- Useful to identify critical areas for subsequent further washing and disinfection.
- A simple and reliable method to test showering/handwashing compliance.

How are test results tracked?

Test results can be tracked on the luminometer and software by location, plan and user. This information allows users to clearly associate results with the specific location or group of locations tested, as well as who performed the tests. This enables users to track biosecurity performance over time and look for continual improvement.

Results of pilot projects in SA

Pilot studies were conducted in South Africa in 2021 at three piggeries to measure the impact of the use of ATP verification on farm biosecurity. All farm managers reported that using ATP testing increases awareness of biosecurity practices on their farms.



The EnSURE™ Touch luminometer and swab.

It also identified employees who required additional training on specific biosecurity protocols. After that training, a significant improvement could be tracked in the data collected by the luminometer.

One of the producers stated: "The ATP tests provided the evidence needed to understand the non-conformances of the biosecurity audit." All three producers highlighted that the use of ATP increased awareness on the farms regarding biosecurity procedures.

For more information, contact Natasha Swanepoel, sales manager veterinary: sub-Saharan Africa, on 082 457 2300 or natashaswanepoel@biochek.com.

MEMBERS' NOTICEBOARD



Chicken production on the up



Chicken production in SA has risen steadily since the signing of the poultry masterplan in 2019. The increase is shown in SAPA's broiler production report for November 2022.

The poultry masterplan included industry investment of more than R1.5 billion in expanded production, which has happened and will be exceeded. It also envisaged a much greater domestic market with increased consumption, as well as a growing export market, the development of which is behind schedule.

Production statistics show healthy annual increases – from 18.8 million birds per week in 2018 to 20.9 million per week in 2021. Chicken production in 2022 will be higher again – it had reached nearly 21.4 million per week in the first 11 months of the year.

South Africans' annual consumption of chicken meat rose in 2019 and 2020, but it dropped slightly (-0.9%) in 2021 to 2.1 million tons. It had reached just under 2 million tons by November 2022.



 SA's chicken producers complied with masterplan objectives to increase output

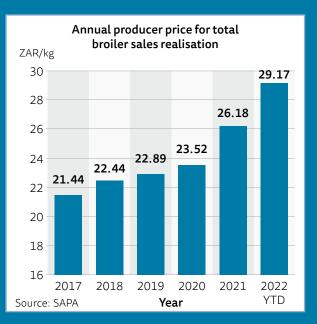
Producer prices up 11.4%

Broiler producer prices averaged R29.17/kg in the first 11 months of last year, according to SAPA's producer price report for November 2022.

The average is made up of frozen chicken (86.2%% of production) and fresh (13.8%). The producer price of frozen chicken averaged R29.29/kg in November, and fresh chicken R38.17/kg. IQF mixed portions averaged R29.99/kg, and frozen sundries R13.80/kg.

Frozen chicken prices rose faster than fresh chicken over the 11 months to November last year. The combined annual average for the period was an increase of 11.4%. Producer prices of fresh chicken increased by 7.2% and frozen chicken by 11.8%.

SAPA's market share graph (by volume) shows that in the third quarter of 2022, 39.1% of chicken produced went to retail outlets. Wholesalers were close behind at 38.1%, followed by food services (19%) and institutions (1.7%). Exports were a mere 0.6% of production over that quarter. 78



MEMBERS' NOTICEBOARD

Global pressure for HPAI vaccination





Vaccination against HPAI (highly pathogenic avian influenza) is being considered internationally and, if accepted, would put an end to the culling of millions of chickens every year in an effort to control the spread of the disease.

SAPA's avian influenza (AI) report for November 2022 said outbreaks were increasing worldwide, leading to pressure on governments to support alternatives to culling. At a conference on vaccine strategies in Paris last year delegates, including a number of chief

veterinary officers, agreed that HPAI vaccination needed to be promoted internationally. France will soon start vaccinations to better manage the severe outbreaks that have affected that country.

"HPAI vaccination trials are underway in Europe; clearly there is movement," SAPA said.

The local industry is to take up the issue with the national agriculture department.

"It has to be stressed that even if international consensus is achieved on the need for vaccination, there remain a number of technical hurdles to be overcome before HPAI vaccination can become a reality in SA and no changes

Governments are under pressure to support alternatives to culling because outbreaks are increasing worldwide

should be expected soon," the report warned.

It noted that, while AI was spreading rapidly around the world, South Africa had only suffered isolated incidents since February 2022. However, outbreaks were more likely during the winter months, so the risk would increase as the country moved into the colder seasons.

Nearly four million chickens were culled in the current AI outbreak during 2021 and 2022, the report said.

Most culled birds (2.9 million) were in the egg industry, with nearly half of them (1.4 million) in the Western Cape. In the two years from January 2021, more than 858 000 broiler birds were culled. In total, an estimated 2.4% of the national flock were destroyed because of AI outbreaks in the past two years.





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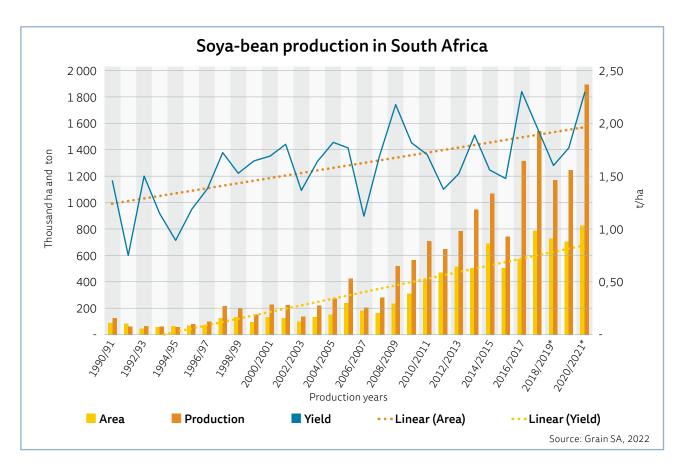


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MEMBERS' NOTICEBOARD

How to cut costs of poultry feed - report





Increased government support

for South Africa's grain and soyabean industries would help increase grain supply and reduce the costs of poultry feed, according to a report commissioned by the Industrial Development Corporation (IDC).

The study was made in terms of the 2019 poultry masterplan, which tasked the IDC, SAPA and Grain SA with the investigation of these two key components of poultry feed. Feed makes up about 70% of the cost of rearing a chicken, and prices have risen sharply over the past few years.

Conducted by Urban-Econ Development Economists, the study recommended actions by both the government and the private sector over the short, medium and long term. The 89-page draft report surveys the worldwide production and export of both grains, including the measures which various governments such as Brazil, the United States and those in the European Union have in place to

support their grain industries.

It says the South African government will have to "revisit agricultural policies" in order to give more support to farmers.

It recommends that government provides a safety net for farmers affected by natural disasters such as floods and drought, as well as crop insurance for small-scale farmers. It also proposes measures included in the February budget – tax breaks on diesel and electricity and facilitating solar installations on farms and at agroprocessing facilities.

The study calls for increased government investment in research and development, and in agroprocessing facilities to support the local production of soya-bean meal and oilcake. It also strongly supports infrastructure upgrades for water, roads, railways and harbours.

Private-sector recommendations include precision farming to increase yields, use of the latest cultivars of maize and soya, trading soya-bean meal and oilcake on the SAFEX futures market and increasing the soya-bean crushing capacity.

The report further notes that the South African feed industry has 25% spare capacity and can increase the production of feed if local soya-bean production rises, as it has been doing. 7





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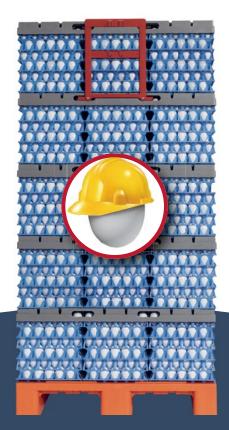
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MEMBERS' NOTICEBOARD

NOTICES

ALMOST AVI AFRICA TIME!



Time is running out to qualify for early-bird registration at the 2023 AVI Africa poultry congress! From 6 - 8 June Southern Africa's poultry producers will get together for the first time in three years to share information, learn about latest developments, and network with the best in the business.

As always the exhibition hall is a highlight of the congress, and this year attendees will be able to explore 106 stands from over 90 exhibitors, covering every possible technology and product a broiler or egg farmer could want to know about. If you have questions on anything from animal-health products, bar-coding solutions for packaging, climate control and weighing technologies, to floor systems, feed, heating and housing suppliers, pest control or solar

options, the answers will be yours for the asking, all under one roof.

Alongside the exhibition hall, a packed programme of information sessions, panel discussions and practical talks on a variety of relevant issues will unfold over the three days. Knowledge and insights will be shared by a line-up of expert speakers, including an agricultural outlook to 2031 by Professor Ferdinand Meyer of the Bureau of Food and Agricultural Policy (BFAP) and a veterinarian's view on exports to the European Union by Dr Adriaan Olivier. IEC President Suresh Chitturi will report on how India managed the pressure of cage-free lobbyists and an agricultural economist's view on loadshedding's impact and potential solutions will be presented by Wandile Sihlobo.

Bird flu may cut bone-in imports

Avian influenza seems likely to have a growing impact on South Africa's poultry imports in 2023.

Import totals have been increasing since October last year, although they are still way below the previous year and the long-term trend is downwards. Poultry imports have been declining every year since the 2018 peak.

In a possible reversal of this trend, imports rose in January, in some cases sharply. Broiler imports were up by 21.7%, with offal (up 40.6%), bone-in portions (up 31.1%) and mechanically deboned meat (up 9.9%) contributing to the total.

As this is happening, bird flu has spread from Europe to North America, and it is now creeping across South America towards Brazil, the world's largest exporter of poultry.

The imports that most affect South African poultry producers are bone-in portions, which compete with local IQF packs. Those imports, too, have been declining, and the picture is looking very interesting.

In 2022, 96% of South Africa's bonein imports came from three countries – the United States (49.6%), Brazil (30.2%) and Argentina (16.6%).

Bird flu is sweeping across the



Register now!

To register, point your smartphone at the QR code alongside. The early-bird registration deadline is 30 April, and if you register by this date you qualify for a discount of 5% on the R700/day congress fee. Block bookings qualify for a special rate too, so bring your staff and suppliers!



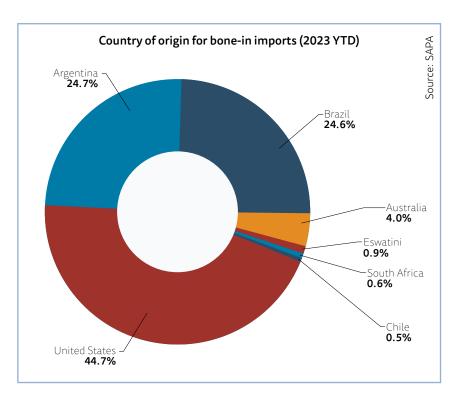
US, and bans now affect 37 states, including its prime poultry-producing areas. As a result, its exports have been dropping back in recent months.

Bird-flu outbreaks in Argentina have led to South Africa banning Argentinian poultry products from February 2023.

That leaves Brazil, so far unaffected but surrounded by countries with outbreaks of a virus carried by wild and migratory birds. Brazilian authorities are on high alert.

Brazilian producers may be stepping up bone-in exports before the implementation of suspended antidumping duties in August 2023. That might not last.

Bird flu has already stopped Argentinian exports. It could yet have a major say in bone-in supplies this year from the two biggest exporters to this country, the US and Brazil.





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Once your hens have done their job, getting large volumes of eggs to their end destination whole and uncracked has always been a farmer's big challenge. Luckily, Dutch ingenuity and Italian technology come to the rescue.

Before the EggsCargoSystem® was developed in the Netherlands in 1999 as an alternative method of egg transport, eggs were packed on paper trays and transported on metal carts or wooden pallets. Placing the stacks of eggs on the conveyor belts of egg-treatment equipment was also done manually. The result was high levels of unavoidable breakage and wastage.

That all changed with the advent of the EggsCargoSystem® (ECS®). Companies could now employ robots to pack and unpack the pallets, winning also on efficiency and speed. It was a true gamechanger for the industry.

Fast forward 20 years and ECS®, which has been manufactured in Italy since the start, has become the global standard in egg transport, and the perfect complement to all modern egg-processing equipment.

The system consists of three parts: pallet, divider and tray. All elements are produced from the highest quality UV-resistant material that promotes durability and long life.

The pallet, dividers and trays are stably connected to each other due to their integrated design, and this firm connection ensures that

Images



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eggs are maximally protected, reducing breakages to less than 3% .

The Italian manufacturer, Giordano Poultry Plast, became Gi-Ovo's majority shareholder in 2018, and today ECS® is still produced at its plant in Caraglio, Italy, as well as in the United States, Malaysia and Brazil.

How to use the system

ECS® is a flexible system to accommodate different requirements:

- For manual processing, a set with one pallet, three dividers and 288 trays is recommended. It has a capacity of 8 640 eggs.
- For automated processing, the set can be expanded to five or six layers with space for 10 800 or 12 960 eggs respectively.
- Because eggs come in different sizes, clients can choose from three tray types suitable for S/M, M/L and L/XL egg size ranges. All tray types have the same outer size and weight.
- For extra protection during transport, the use of two special protectors on top of the pallet is recommended. To fix these, an extra divider on top of the pallet is required. With this addition, the pallet is more resistant to the effects of bumpy roads.

Security and branding

All pallets contain an RFID chip that enables digital tracking and tracing. For easy identification ECS® can be produced in all RAL colours. Clients can also request their branding on pallets, dividers and trays to personalise their system further.

Sustainability

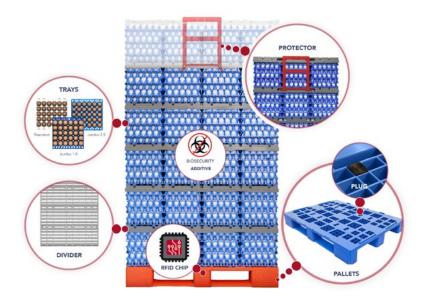
Since its introduction, more than 300 million ECS® trays have been sold in more than 124 countries. The system is used daily by more than 1 200 customers, who rely on it to optimise their loading capacity and keep their eggs safe in transit. Due to its longevity, long service life

and being fully recyclable, ECS® can be considered the most sustainable system available on the market.

For more information about EggsCargoSystem® and other systems offered by Gi-Ovo visit www.gi-ovo.com, e-mail sales@gi-ovo.com, or contact Gi-Ovo sales manager Africa Simone Scherpenzeel on simone@gi-ovo.com.

The integrated design of the system means that eggs are maximally protected, reducing breakages to less than 3%

THE EGGSCARGOSYSTEM®

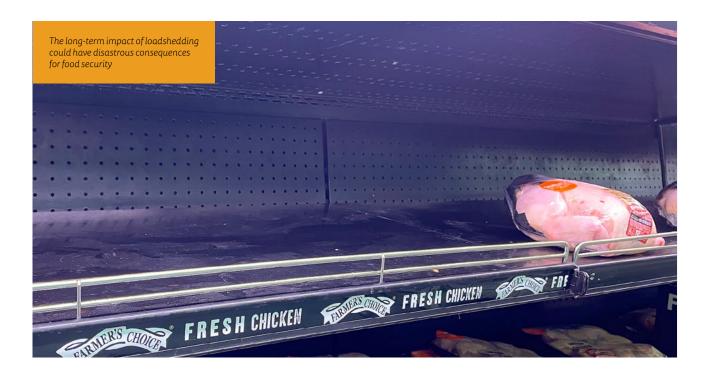




ANEMERGENCY IS BREWING



STATE OF POULTRY DISASTER



From feed mills, breeding farms and hatcheries to broiler and layer farms, abattoirs and further processing plants, the daily upheaval of stage 4, 5, 6 is wreaking havoc across the poultryproducing world. Astral, South Africa's largest integrated chicken producer, announced in its voluntary trading update in January 2023 that based on "prevailing market and operational conditions, the cost to produce chicken exceeds the selling price by at least R2/kg", and warned of a 90% plunge in headline earnings per share. The company's ESG (environmental, social and governance) summary report for the year ended 30 September 2022 reported a direct loss of R126 million due to the power cuts. Its diesel bill alone runs to R30 million per month.

The grim rundown of numbers continues with CEO Chris Schutte pointing out that Astral has had to divert its capital expenditure programme. "The growth, expansion and efficiency improvement programmes we had planned are now on hold. About R200 million of our R737 million capital budget is being spent on generating capacity, and water purification and storage systems – infrastructure we need to just

keep the business going. The opportunity loss is huge."

According to Schutte, the cost of producing poultry is now increasing faster than the basket of goods used to track food inflation in South Africa.

While no sector of the economy can escape the impact of loadshedding, chicken production is particularly hard hit because the value chain is highly integrated and fine-tuned for maximum efficiency.

Astral, for instance, has 40 million chickens in its production system at any given moment – the result of a planning cycle that runs over two years in advance. "Our just-in-time system is highly efficient and runs at full capacity all the time, all in the interest of producing the cheapest kilogram of meat," Schutte explains. "If that process is disrupted at the end when we can't slaughter the birds as planned, it backs up onto the farms."

While waiting for abattoir backlogs to clear, the birds get older and heavier, which in turn has an impact on processing plants that are set up to process birds that weigh 1.8kg on average. Heavier carcasses cause more equipment



breakdowns, but the biggest cost is feeding those birds on the farms for longer. As a last resort, producers are forced "to take birds out of the system to create breathing space", as Schutte puts it.

For Astral that meant 12 million birds between October 2022 and end of March 2023. "All the money that had gone into preparing for those birds goes to waste because you don't have a chicken to sell at the end of the process," Schutte notes.

Astral's experience is by no means unique. From Tzaneen in Limpopo, Bushvalley Chickens CEO Ian Preece comments, "Up here in the Bushveld summer temperatures are in the high 30s, which does not help if you are trying to cool product for 12 hours on generators!" Bushvalley's farms and abattoir already had generators before loadshedding became a daily reality, but they were designed to keep the plant and five of its eight cooling compressors running during the occasional two-hour power interruption. "This worked fine until we got to the disastrous eight to 12 hours per day,"

Preece says. "The biggest challenge is to get and keep the temperature under -12°C so that we can ship product out. As we cannot run all our compressors on the existing backup generators, we need to adapt our slaughter plan. Every time there is loadshedding we lose 45 minutes in switchover, adding to the overtime needed to complete the day's slaughter. This comes with a hefty overtime price tag as we have been working six-day weeks since December. We also make use of offsite storage facilities to help keep our product at the right temperatures."

Cold-storage concerns are also top of mind over at Grain Field Chickens in the Free State. Theo van Strijp, VKB's executive director: poultry, says that the integrity of the cold chain is at risk as not everybody in the system has back-up facilities. "This is compromising product quality within the supply chain."

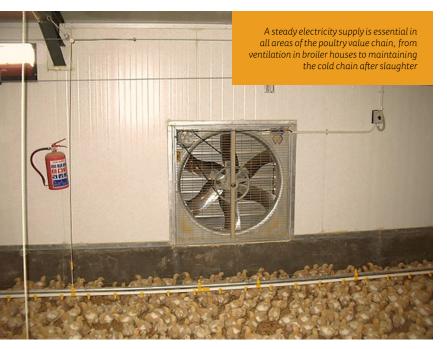
In addition, Grain Field's customers aren't always able to trade when they have no electricity, which directly affects sales. Suppliers are also pushing up prices as costs in their systems keep soaring. "We do our best to be a

STATE OF POULTRY DISASTER

partner to all our customers and suppliers when it comes to managing price hikes, availability and sustainability, and absorbing as much of the costs as possible without passing everything on to an already under-pressure consumer. But it is extremely challenging."

Jack Nkogatse, acting CEO of Daybreak, says that the company's cost of production has increased by R3.50/kg due to loadshedding, and that it has suffered a 48% loss in turnover between December 2022 and February this year. Unbudgeted additional feed costs amount to more than R800 000 per day. "While we have not had to cull any day-old chicks, we have put a hard reset contingency plan in place and placements have been affected. We are being devastated by the bottleneck loadshedding is creating in the value chain."

The direct costs of mitigating the impact of blackouts has exceeded R20 million in the past three months, while Daybreak has also tightened expenditure controls and is doing all it can to improve production efficiency. "All our customers and suppliers are under pressure, and we are working closely with them to manage the situation as best we can," says Nkogatse.



Preece also comments on teamwork throughout the supply chain. "I must say the cooperation between us and our suppliers is wonderful as we all share the same frustration."

Is the informal sector coping?

"The market is in total disarray," says Clive Tigere, CEO of Northroost Hatchery, the new joint venture between Tigere, Country Bird Holdings and Bushvalley Chickens. Having designed Northroost's business model with a 55%-45% split between informal-sector customers and formal-sector off-take agreements, Tigere has seen his informal market falling away over the past three months.

"The first three months after we started operating last August were amazing. Clients were waiting at 06:00 at the gate to collect their chicks and go. But now... We have started setting fewer eggs to manage the situation."

While Northroost is far from down and out, Tigere is struggling to get his head around the dynamics at play. Feed prices are certainly a factor in the shrinking demand for his quality chicks. A year ago a bag of starter feed sold for around R320; these days it is closer to R540. Unable to pass rising input costs on to cashstrapped customers, many small-scale broiler farmers are cutting back or have stopped raising chickens for the live market altogether. At the other end of the value chain, there are excess eggs and excess chicks everywhere. "I'm on sales runs every day, trying to drum up business, speaking to old and new customers," Tigere says. "Stores that used to take 10 000 day-old chicks from me now take 2 000. One of my clients used to sell 100 live birds every two days, now it's down to 30 birds. You can manage the drop-off if it's one customer, but not if all your small customers suddenly take way fewer chicks."

Tigere reckons that while loadshedding is not the primary concern of the informal market, it is disrupting the dynamics as producers across the board try to minimise losses. The mega hatcheries are increasingly selling DOCs at cost price into the informal market to avoid costly culling. It is an understandable risk-mitigation strategy, but "they sell to people who would have been my customers at prices I cannot match," Tigere says.

Northroost was able to increase its formal off-take agreements - now accounting for 70% of turnover - and that carries the business that, incidentally, is currently the biggest empowerment success that has come about under the auspices of the poultry industry masterplan.

Tigere remains hopeful. "This week we sold 60 000 chicks to the informal market out of a total of 170 000, so it's not all a shambles, but given our capacity of 280 000 chicks per week, we should have sold more. Guys who have been around 20 or 30 years say they've never seen the market like this before. It gives me comfort to know it's not just us. For now it's back to the drawing board for me, rethinking our plans and working the spreadsheets. We have to reinvent and move forward."

On the day Poultry Bulletin interviewed Tigere, he had just completed a motivation to Northroost's shareholders for spending R500 000



on a generator to back up the existing generator. Having to run the generators as if they are baseload power stations eats up almost 1 000 litres of diesel a day, at a horrendous cost.

Bushvalley also installed an additional four generators in March this year. "The massive capital and running costs aside, it costs more to maintain the switchgear and other equipment that was not designed to be switched on and off this frequently," says Preece. "Even if loadshedding stopped today, we'll all have to replace damaged equipment. Nationally this amount is probably insurmountable."

Even small producers, such as Beverly Mhlabane, whose layer operation Zapa Farm on the East Rand produces 17 000 dozen eggs per month for retailers and spaza shops, have implemented backup power capacity. She recently bought a generator and already has a 5kVA solar system, which is unfortunately not big enough. "To be comfortable, we need a 30kVA system. The last quote I got was R300 000." Having installed her solar system three years ago, Mhlabane now needs to replace the batteries, but at R35 000 each, she simply cannot afford highquality lithium batteries.

On Zapa Farm, loadshedding's main impact is on water provision. "We have a borehole and



STATE OF POULTRY DISASTER



when there's no power, we cannot pump water for the birds. Our mortality rate has gone up by about 15% in the last few months. We are now investigating ways to store water." Fortunately, she has a natural-vented chicken house, making temperature regulation a matter of opening and closing the curtains.

Mhlabane's egg-grading equipment also depends on electricity. "When the power is out, we cannot grade and thus we can't deliver on time." Adding to loadshedding's impacts is a 34% increase in feed costs and 20% in packaging – without the price per dozen of eggs having really changed. "The business case no longer makes sense," says Mhlabane. "I don't think I'll be able to keep up my government-loan repayments. I'm looking at other options." If she closes up shop, five people will lose their full-time employment and a further four their casual jobs.

Mhlabane's experience also plays out at large egg producers such as Quantum Foods. Says Adel van der Merwe, executive: egg business, "Egg producers have to carry the added cost of loadshedding as the rise in input costs far







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STATE OF POULTRY DISASTER





exceeds increases in egg and egg-product prices." She adds that raw materials, feed and packaging are becoming increasingly difficult to source as suppliers are struggling to cope with loadshedding. "We have prioritised certain raw materials and packaging and are managing our stock levels and suppliers as best we can."

Talking solutions

During January this year, SAPA was part of a delegation that included all agriculture sectors that met with DALRRD Minister Thoko Didiza to discuss the impact of loadshedding on the industry and the threat it poses to food affordability and security.

Egg Organisation GM Dr Abongile Balarane reports that a task team was formed at the meeting, to investigate opportunities to mitigate

the disruption of power blackouts. "Two proposals were made, namely, to designate agriculture an essential service and exempt it from the more severe levels of loadshedding, and for a state of emergency to be declared."

Government has since announced a national state of disaster relating to the electricity situation. In addition, Finance Minister Enoch Godongwana's budget-speech announcement of a tax rebate for businesses that install solar panels offers a welcome bit of relief, especially as solar is the way most of the big producers are going to not only cope with loadshedding but to improve the sustainability of their businesses.

According to Van Strijp, the Grain Field abattoir will soon run on solar power and several of the company's contract growers have already installed solar panels and inverters. Batteries that would take a farm off the grid entirely are the next investment step. Bushvalley has issued a tender for the installation of a 2.5MW solar plant at its abattoir, and CBH and Rainbow are both investigating the feasibility of relying on sun power.

Astral reports to be actively engaging specialists and solar energy suppliers for solar solutions for its farms, hatcheries and processing plants, supplying electricity either through direct

HOW GOVERNMENT COULD HELP

- Remove the road-accident levy on diesel that is used for generators.
- · Exempt chicken feed from VAT.
- Declare agriculture an essential service.
- Get Eskom and the municipalities to provide predictability and stability, instead of jumping around between stages.
 That would at least allow producers to plan, instead of having to send birds back to the farms because a sudden change in loadshedding stage means the abattoir is without electricity.
- Allocate a portion of government's food procurement to emerging farmers to secure a market for what they produce.



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STATE OF POULTRY DISASTER

ownership, power-purchase agreements and/or wheeling arrangements. "The solar solution we installed at one of our hatcheries a few years back has successfully supplemented baseload energy usage and reduced costs," says Schutte.

Producers that embraced sustainability pre loadshedding are reaping the benefits. Bushvalley already recovers and reuses 75% of its wastewater with a reverse-osmosis plant installed in 2018, while Rainbow's waste-to-value project is proving its worth. The company's biogas reactor at its Worcester processing plant processes 3 million litres of abattoir wastewater per day, generating 1.5MW of energy – enough to supply 25% of the abattoir's electricity needs.

The Rustenburg operation's biogas plant came online in August 2022 and has the capacity to convert 100 ton chicken manure and 200 ton wastewater sludge per day to generate electricity for use in the abattoir. The plant currently produces 1.5MW of electricity and provides high-pressure steam and hot water for the slaughtering process.

"As part of our waste-to-value investments, we consolidated our supply infrastructure and redundancies," says Ettienne Thiebaut, group sustainability executive at Rainbow. "The fact that we demand less power from the Eskom grid has helped us to negotiate curtailment agreements and reduce our maximum demand. At Rustenburg we have a biogas storage system



that allows us to dispatch electricity during peak periods."

Innovation is also evident at the market end of the value chain. Astral recently launched a social-media campaign to educate consumers on the fact that Goldi Chicken mixed-portion packs now contain fewer pieces but that the weight is the same. This is a direct result of broilers growing bigger and heavier on the farms due to disrupted slaughtering schedules. Astral has also started cutting breast and thigh portions in half to ensure consumers still get a piece for each family member in their portion packs.

South Africa's chicken industry is known for its resilience and ability to make a plan. But just how long can it cope with the perfect storm it finds itself in now? As Grain Field's Van Strijp says, "The fact that the business is still operating and giving people employment must be seen as a daily miracle."

For the first time, South Africa's food security is under direct threat as eggs and the nation's most popular meat are fast becoming luxuries. If nothing is done to put the brakes on the slide, millions of South Africans will be deprived of their only affordable source of fresh animal protein.

LOADSHEDDING BY NUMBERS

- The cost of a million-bird-per-week abattoir standing idle is R100 000 per hour.
- It is estimated that loadshedding costs the industry 75c/kg of chicken produced.
- A year ago, the variable costs to produce eggs (fuel, electricity and feed) were estimated at 60% of total costs; today it is at least 70% due to the money being spent on diesel for backup generators.

Solar to the **Tescue** An innovative hybrid energy system offers the solution to poultry farmers

In 2019 when a group of forward-thinking

chicken farmers in Zeerust, North West, started investigating options to convert their farms to solar energy, they had no idea that daily loadshedding would be a reality just a few years later.

At the time options for funding such an expensive exercise was limited, especially for individuals, and things looked bleak until their research lead them to power-purchase agreements (PPA) as a possible solution. At its most basic, a PPA is a contract between a solar-power provider and a customer, in which the provider agrees to develop, finance, build, operate and maintain a solar system on the customer's property. The customer, in turn, agrees to purchase the energy generated at a set price for a fixed period of time.

Creating the example that worked

The son of one of the Zeerust farmers, Jean Oosthuizen and his now business partner, Steven van Dijk, connected with CVE, an independent power producer that provides commercial and industrial companies and especially farmers with energy solutions. "There was great skepticism in the farming community, so we knew we had to show via an example that solar worked," says Oosthuizen. The partners had by now established their own company, Zenergy Green, and they joined forces with CVE and local company WHP Energy, to tackle a project that would prove what they were convinced solar could do for farmers.

They signed up three of the original chicken farmers and a piggery in Zeerust to form a collective. These four farms used enough energy to reach the 500kW requirement to justify the PPA, so the terms and unit price were set, and the design and installation started on the four sites in mid-2022.





ADVERTORIAL

A hybrid model for chicken farmers

In the year since, the group grew from four to 16 farms, plus three businesses in town, two of which are already turned on. And as the interest grew and the project unfolded with new challenges to be resolved at each turn, Zenergy Green and its partners developed a solar-energy model specifically for chicken farmers and industries to reduce dependence on generators during loadshedding. They nicknamed this system "The Sunbird".

A hybrid system that was developed for a four-hour stage 6 loadshedding cycle, "The Sunbird" consists of an on-site solar system with four-hour battery storage that is still grid tied to Eskom. Being tied to the grid not only serves as a primary back up, but also for night-time usage and days with inclement weather. The battery system can be charged on a time-of-use tariff and a generator setup is incorporated, serving as a second backup.

During the day, solar provides power, charges the battery and keeps it charged, so when load-shedding occurs, the primary source of power is the battery, not the generator. If for whatever reason there are only two hours of battery back-up – say, due to night-time loadshedding – the generator charges the batteries to a specific point, which is individually tailored per farm.

Affordable solution for all agri regions

The hybrid model includes battery storage which is worked into the PPA via a lease agreement. It is available as a capex solution from WHP Energy if a farmer has the funds available, but if investment capital is not an option, CVE provides the same option on an individually tailored PPA contract for maximum affordability.

Says Oosthuizen, "Our dream is to create micro grids all over SA, just as we did in Zeerust, bringing this collective solution to all agricultural regions. We want to invite farmers and communities to





reach out to us, to speak to the farmers in our Zeerust pilot project, and come see what we've accomplished here.

"CVE's solar PPA and battery options really are a win-win solution for farmers who want to reduce their energy costs and move towards cleaner, more sustainable energy sources."

For more info, contact Jean Oosthuizen on 082 845 9981 or jean@zenergy.green









EGG-GATE:

Controversy around New Zealand's egg shortage



The end of 2022 was supposed to mark the end of cages for laying hens in New Zealand, but instead a new controversy unfolded in the egg industry as supermarket shelves lay bare. But was it lazy planning by farmers that led to egg-gate, as consumers thought?

Nadine Roberts reports

GLOBAL POULTRY ISSUES



It was 2013 – just a year after the New Zealand government committed to banning battery chicken cages for layer hens by the end of 2022 – when then Primary Industries minister Nathan Guy backed down.

As part of a progressional phase-out process, battery cages installed before the end of 1999 had to be gone by the end of 2016, while those installed before the end of 2001 had until the end of 2018 to be replaced.

But on the advice of the country's independent National Animal Welfare Advisory Committee (NAWAC), Guy was forced to extend both dates by two years because of a fear that the time frames would lead to a disruption in egg supply and incur price hikes.

"Amending the dates will give farmers the time they need to get resource consents and build new sheds," Guy stated at the time.

It seemed the government hadn't initially factored in the lengthy wait many egg producers were already facing to get the resource consents they needed to change their systems.

Michael Brooks, the executive director of New Zealand's Poultry Industry Association, summarised industry reaction to the initial time frames that were given.

"It was ridiculous," he said.

At the same time, in the Canterbury region of New Zealand's South Island, an egg farmer was on the hunt for a new farm after the property on which he was running 9 000 hens in both a battery and free-range operation was bought by the government to make way for a large highway development.

Always a believer in the free-range system, Andrew – whose surname is being withheld to protect his identity – initially bought a property in 2015 and set about getting the required resource consents from the relevant environmental agency.

But 18 months later, after a protracted fight with neighbours through the environment court, Andrew's consent was turned down, and he was forced to sell the property and start the process all over again.

Luckily, the next Canterbury property he chose took only 14 days from when the consent application was lodged to be granted.



Setting up the property was the easy part, Andrew said, and in 2016 the free-range infrastructure was complete.

Then he had to raise thousands of chickens – and all of it while the clock ticked away on the government deadline.

Andrew admits if it hadn't been for the lucky and unexpected purchase of his initial farm, he may have exited the industry. He didn't have the land to turn his system into a free-range farm, and buying valuable agricultural land in Canterbury often priced chicken farmers out of the property market.

Since the deadline was introduced, Andrew has seen small producers leave the industry. Those who stayed began transitioning away from battery cages promptly but many were delayed by New Zealand's Resource Management Act (RMA).

Brooks tells a similar story. He knew of one company that was held up for three-and-a-half vears because of the act.

That same company was to face an even bigger blow after spending \$60 million (around R685 million) converting from battery cages to colony cages (cages with enrichment areas that have a capacity of 60 hens), only to be told in 2019 the supermarkets would only take free-range or barnraised eggs from 2025 to 2027.

"When you put it together," Brooks says, "it's a multitude of factors that caused the shortage, but you can see why farmers have been battered by decisions outside their control."

Frustrations over change

Delayed resource approvals held up farmers who wanted to change It was two days after Christmas and the tweets were posted thick and fast.

"They've had 10 years to phase stuff out, and we have shortages," one tweeter mocked.

"Impressed that farmers had 10 years to adjust to the end of eggs from caged hens and still managed to screw things up," another typed.

All over the country, angry consumers who had been turned away from empty supermarket shelves were searching for someone to blame.

Brooks was suddenly inundated with media calls, and was frustrated at the anger vented at producers.

"The industry would argue strenuously that there was a whole range of issues beyond our control. People say we are opposed to change – well no, we're not!"

If Brooks sounds fired up, it's because he is. He says the industry signalled from 2012 that the decade-long deadline to eradicate battery cages would cause disruption in supply chains.

GLOBAL POULTRY ISSUES



Throw in the two main supermarkets' announcement in 2019 of a ban on every other egg-producing system except free range or barn raised in six to eight years, after 33% of battery cages had already been converted to colony

cages, and you begin to understand the complexities farmers have been dealing with.

"Suddenly farmers are saying, 'What is my choice now? Where do I go? Do I have to buy a whole new farm to go free-range? And what about the money I've already invested?""

Brooks doesn't buy the supermarkets' argument that consumers want to buy free-range or barn eggs.

"Really? So all over the country they are battering down the doors to tell you they want free-range eggs? It's bollocks."

Brooks can't understand why the supermarkets went against NAWAC research showing colony cage systems had acceptable animalwelfare standards.

He believes the decision was more to do with profit margins than the health of the birds. Regardless, the abrupt decision blindsided

farmers and led to some of these exiting the industry altogether.

Other, smaller free-range farmers with customer bases centralised around cafés, small retail shops and farmers' markets saw their

markets wiped out overnight due to the Covid-19 induced lockdowns.

In the last year alone 18 small freerange farms have closed down and Brooks is concerned that there have been no applications for new farms of a similar size during the same 12-month period.

"It's just too hard."

On average, New Zealand industry research back in 2012 found the average cost to convert a smaller to mid-sized farm from battery to colony cages was \$1m (about R11,4 million). For those choosing to stay in the

industry, financing became another time barrier to meet the deadline.

"Think about it," Brooks says emphatically.
"From 84% of the industry having battery cages to zero in 10 years is a phenomenal change. No other industry has had to do that."

Lumpy or vacant supply chains in the face of

'Farmers ask, what now – do I have to buy a whole new farm to go free-range?'





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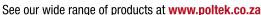
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GLOBAL POULTRY ISSUES



the pandemic have also severely affected those farmers transitioning to new systems, he says.

Meanwhile, feed costs have risen dramatically, with a decrease in Ukraine grain damaging the global feed market because of the ongoing war with Russia. With 65% of egg production costs coming from feed, any increase has a large financial flow-on effect, as Burnham Free Range Eggs owner Nigel Gould found out.

Gould also knows of other similar-sized farmers who have left the industry because of the pace of change, and he believes all the changes directed at the industry have led to the current egg shortage.

To meet the demand, New Zealand needs between 2.8 million and 2.9 million commercial laying hens, but the number of such hens has fallen to 2.5 million, leaving the supply chain "tight", says Brooks.

Raising the 300 000 chicks needed to meet the gap takes about five months to the point of laying, meaning pressure on supply could extend to mid-year.

While both retail chains Countdown and Foodstuffs concede egg farmers have experienced significant challenges due to regulatory

changes, neither acknowledge their role in the shortage.

And that's something Brooks can't accept. In the past two months his 20-ton feed bill for the 6 000 hens he farms has risen by \$4 000 (around R45 600).

"I think the timing of their decision (to ban battery and colony systems) was really, really poor."

This article was first published by Stuff Limited.



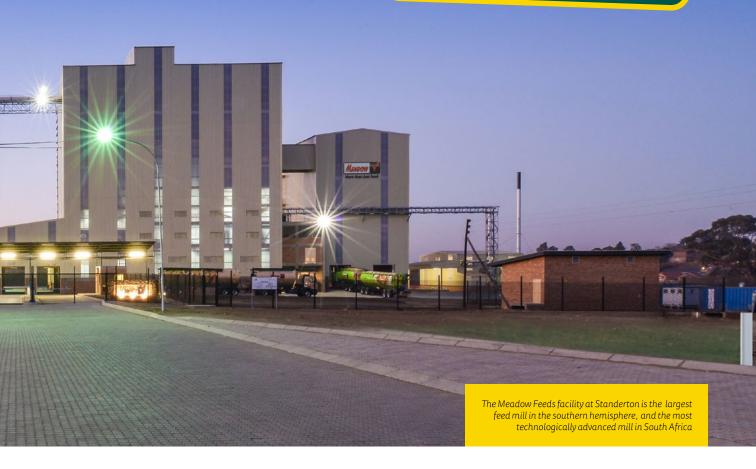




TECH LEARNINGS FROM INDUSTRY LEADER

Talking technology with Astral's Group COO Gary Arnold, MD of the commercial division Frans van Heerden, MD of the agriculture division Obed Lukhele and MD of the feed division Michael Schmitz By **Melinda Shaw**

AHEAD OF THE CURVE



On a subsistence level poultry farming doesn't need much in the way of technology, but a company that processes over 300 million broilers a year is a complex web of interlinked systems facilitated by hi-tech equipment. Astral, by virtue of the scale of its operations, has access to the latest technologies in poultry production in South Africa, across the various divisions.

According to group COO Gary Arnold the company has focused its implementation of technology in four major areas – genetics, nutrition, equipment and facilities.

What are the secrets of Astral's genetics programme?

The decision was made in 2009 to replace the locally bred Ross 788 and Ross 308 with the International Ross 308 (RossInt 308). This underpins Astral's best-cost production strategy as this bird, both the broiler and the breeder, is most efficient in feed conversion and chick numbers. At any given time we work with four

generations of the bird – great-grandparents, grandparents, parents and the broiler – in a meticulous planning and breeding process that takes over two-and-a-half years from start to finish.

To optimise this breed's genetic potential, the correct housing environment and nutrition are essential, so we invest in modern poultry houses that are efficient in feed and water delivery to the bird. We have hi-tech technology to test water quality, feed and feed raw materials in our in-house laboratory. The finished feed is further subjected to controlled testing in dedicated trial facilities before being commercially implemented. We have our own test facilities in the Western Cape, Gauteng and Mpumalanga and are constantly testing new feeding and nutrition protocols. We also have a full in-house veterinarian service to support our flocks.

You have a workforce of almost 12 500 people. How do you manage such a vast team?



We have extremely skilled and highly trained people in all our divisions, working together towards our goals. Training and motivating our people across business units form the basis of the company's human-capital management. People are trained before they join the team and throughout their time with us, using different structured programmes focusing on stockmanship, biosecurity and 20 Keys to Workplace Improvement, to name a few.

Over the years we have also formed strategic alliances with valued global partners, and have used those partnerships to develop our in-house abilities and improve our own tech capacity. For instance, we host global experts at regular intervals to walk through our operations to advise on and share best practices, ensuring that we can stay ahead of the curve and always utilise the most advanced technology available to us.

How have you invested in your facilities?

Modern bird genetics require an appropriate environment to perform optimally. So when there is expansion and replacement of hatcheries and farms, we put new technology in place that provides an ideal environment to ensure efficient bird production.

At our processing facilities, we installed equipment that makes it possible to do better with the energy and the human capital at our disposal. Technology has also improved the presentation of our product through innovative packaging. This includes the materials used and



Gary Arnold



Frans van Heerden



Michael Schmitz



Obed Lukhele

the incorporation of MAP technology, which involves the insertion of modified atmospheric gas into the packaging to extend shelf life. We've reduced both food waste and unnecessary packaging material in this way. We also invested in the latest feed-milling technology after learning lessons with our new feed mill in Standerton. The modern, highly automated environment comes with cost benefits and is also more energy efficient. Ultimately all of these elements enable us to produce poultry that is more affordable to the consumer.

How important is it to keep upgrading as technology develops?

We believe it is very important to keep abreast of technological innovations that can increase efficiencies and keep our products competitive in the market. Striving to always be innovative within a low-cost culture is important across all the divisions, if you want to stay true to the goal of supplying the most affordable poultry to consumers.

Give us an example of a game-changing system in place in any one of the divisions?

We developed a routing app with our logistics partners which is specifically tailored for Meadow Feeds requirements. The data helps with efficient route planning and daily management of our logistics, so that we deliver more feed per litre of diesel used every year. This tool was specifically designed with the Meadow Feeds culture of

AHEAD OF THE CURVE

continuous improvement in mind.

Elsewhere, we have new live-bird handling equipment which has improved live-bird transport and receiving efficiencies by 25%. We've added an extra level to cold storage which increased cold-storage capabilities by 20% on the same footprint. And we've installed the latest technology in odour control in the rendering plants, reducing smells and decreasing environmental impact.

What would you say is the most interesting technological innovation to consider in the global poultry industry at the moment?

Rather than a particular piece of equipment, what is at the technological forefront is the ability of broiler genetics to continuously improve on the way it delivers beneficial traits in the most efficient way. Genetic potential is constantly evolving, and the data that comes from pedigree breeding programmes that are run over many years continually update the picture.

Aviagen, the company behind the International Ross 308, invests a huge percentage of

its global turnover into research and product development. We meet with Aviagen geneticists yearly to stay up to date with the breed's business potential into the future, to get to our aim of producing a best-cost bird.

Any technology that increases electricity and water efficiencies, and recycles to reduce costs is relevant right now. Finding renewable energy solutions is a global concern, so reviewing the energy mix to find a more sustainable model will become increasingly important. In our own plants the focus over the next three to five years will be managing the energy-supply risk.

There are also technologies that provide insight into consumer behaviour, such as smart shopping cards driven by the retail sector, with Shoprite at the forefront, which provide real-time data that can tell us what our market wants from our product. That can, for instance, help the poultry industry adjust product mix according to geographic location to have the right products in





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the right volumes in the right place. The future technological challenge will be how to integrate all the multiple streams of data from across all the divisions to drive product development, and hone the efficiencies that enable us to produce the lowest-cost chicken.

We are also looking ahead to the technology that would enable the sexing of birds in their embryonic stage inside an egg – that would certainly be revolutionary, and globally it is being researched right now.

Vaccine technology in terms of products and application continue to advance, and we expect that this will reduce labour costs, while improving product efficacy and bird welfare.

The industry faces many challenges that require out-the-box thinking and ongoing troubleshooting. What learnings can Astral share in this regard?

All of us in the poultry industry have implemented solutions and will continue to do so to reduce our dependency on the grid with a more diverse energy mix. Our industry offers an essential service that directly impacts food security in this country, and it is a great responsibility to run such a business while always conscious of the impact of rising food prices on South Africa's most vulnerable communities.

Technology allows us to do more with the people and other resources that we have, and that is what we'll continue to pursue, so that we can deliver chicken at the best price. It is not about mechanising at the expense of job creation – we are proud that even throughout the disruptions of Covid we didn't lose a single job – but about boosting efficiencies on the same operational structure.

What would be your most important advice for smaller-scale producers?

Even when money is tight, cheapest is not always best. Spend time to choose the right partners as suppliers to your business. In our business we value those partnerships and we depend a lot on our suppliers to introduce us to new technologies.

No matter the size of your operation, if you want success, uplift yourself with knowledge. Because Astral has business subsidiaries in both feed and day-old chicks, we have partnerships that are suitably structured to support small producers with high-quality products and knowledge through various communication platforms, including technical advisors.





Eggs so famous, they are art

Words: Simba Kakora

Illustrations: Jason Bronkhorst

If Madame Tussaud's had a section for eggs in her wax museum, which ones would she style up and put on display for tourists to come gawk at?

When we think of fame we usually tend to think of celebrities, sports stars, business magnates, politicians, and nowadays overnight Tik Tok and Instagram stars... never really, well, eggs.

After all, eggs are just smooth, oval objects that we crack and cook, and they round out an English breakfast pretty well. Apart from egg farmers, the average person doesn't spend much time thinking about eggs beyond tomorrow's fry-up.

Eggs have been around since chickens, obviously, and there are some pretty famous eggs out there who would give any celebrity a run for their money. In fact, the Fab Three of the egg world could proudly take their place in any museum...

Instagram egg

Social media, and especially Instagram, has seen the emergence of self-made celebs on the platform. But no-one would have thought an egg would become one of them.

Well, it did! In January 2019 someone decided to post a picture of an ordinary egg and asked people to like it, and help in setting a new record for the world's most-liked picture on Instagram. It was an egg-citing challenge that pitted an egg against Kylie Jenner, whose post of her newborn baby held the record at that time with 18 million likes. Many people took up the challenge and a star was born.

Ten days after being uploaded, the Instagram egg reached 30.5 million likes, beating Kylie's record.
As of March 2023 with no filters or make-up the Instagram egg had

amassed

over 59.9 million likes and 5 million followers. To this day its popularity remains an enigma.

Perhaps it's not much of a mystery considering eggs are a part of our daily lives one way or the other. I guess all that people needed was a direct call out for them to click like on what they



THE LIGHTER SIDE

have always liked. More that some reality star's rug rat, anyway.

But the Instagram egg's record has since been kicked away by soccer star Lionel Messi and his teammates, whose photo of their FIFA World Cup Final celebrations on 18 December 2022 racked up over 61 million likes in one day, and eventually rose to over 75 million likes.

Egg lovers, are we going to take that lying down? We only need 15 million likes to have the egg in the lead again! Go add your like to @world_record_egg.

Humpty Dumpty

Humpty Dumpty is one famous egg. His fame dates back to the 18th century or, some say, even earlier. As any nursery-rhyme fan will tell you, Humpty is an oversized egg that sat on a wall and had a great fall. But what makes him famous is how neither the king's horses nor the king's men could put him back together again.





From an English nursery-rhyme star to a Broadway superstar, Humpty Dumpty's meteoric rise to fame was spectacular. He starred in a self-titled pantomime musical back in 1868 which had an impressive run on Broadway, and in the years since has found himself in novels, songs, cartoons and movies. That's pretty impressive for an egg.

His rhyme does raise some questions though. For starters, why was he sitting on a wall and can you really put an egg together again? But anyway, that's a story for another day.

Fabergé egg

This egg is considered the most expensive collectible in the world, so it's no wonder it's usually a victim of theft in heist movies.

Meet the Fabergé eggs, also known as the Royal Family in egg circles. That is quite fitting, since they were made for royalty. Commissioned by two Russian tsars as Easter gifts for their wives and mothers in the 1800s, these famous jewelled eggs will cost you anything between \$3 million and \$33 million.

From its not-so-humble beginnings as a tsar's gift to his wife, the Fabergé egg's fame has been cemented as a symbol of luxury and opulence



that has
endured until
today. Of the 69
eggs crafted by the
House of Fabergé only
57 remain today, mostly
owned by museums
and collectors.

Popular culture has helped to stoke the flames of these eggs' fame, and they are a prime target for art thieves in many a movie and TV show. The exquisite craftsmanship makes them popular centrepieces at exhibitions around the world, making sure this is one egg that will not scramble out of the limelight soon.



Jason Bronkhorst heads a boutique design agency in Jozi. His work has been exhibited internationally. For infrequent Instagram updates: @jasonbronkhorst









TECH DESK

Help for farmers via artificial intelligence

A new SA-designed platform using AI opens a new channel of advice. By Laura Tyrer

Small-scale poultry and other farmers now have a new ally in the form of Hi Saai, which was launched in February by the Southern African Agri

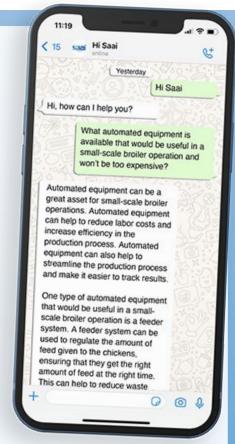
minutes. All it requires is internet connectivity and a smartphone.

Saai executive chairman Theo De Jager says, "The future of food security is in the hands of small- and medium-

> For family farmers to remain competitive, they







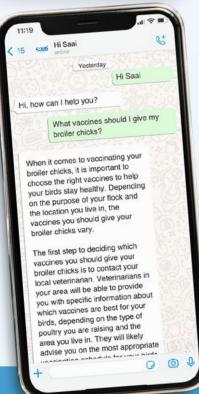


Illustration: Shutterstock

must embrace technology. It's only through the latest technology that we can produce more, on less, with less."

The beta version of the platform is already available, and once fully functional it will be able to provide farmers with information ranging from business plans, financial and mechanisation advice, production planning and marketing, to livestock and crop advice. De Jager says it will eventually even be capable of writing computer programs and algorithms to manage farm systems, provided the information exists in the public domain. The AI records users' questions and supplied information, applying these details to future questions which that user might ask.

Inspired by ChatGPT

Hi Saai is only possible thanks to the November 2022 launch of ChatGPT, the artificial intelligence computer program designed to simulate natural conversation to interact with human users, which has taken the world by storm. Saai tested the AI to assess its value for the farming sector and, says De Jager, "Once we realised that it can fluently answer most agricultural questions our next task was to make it accessible to farmers."

Since ChatGPT and other AI natural language-processing models do not have any apps available for smartphones, Saai built the Whatsapp integration that focuses Hi Saai's responses on the agricultural sector.

Farmers interact with the platform by sending the message "Hi Saai" to the Whatsapp number and following the prompts with a question. The platform then uses 176 billion internet data points to respond with a relevant answer. The more specific and detailed

the question, the more likely you are to get a helpful response.

Currently, the platform sources 70% of its information from ChatGPT or the World Wide Web.
The other 30% is drawn from specific South African farming data and principles that Saai is teaching the Al. Hi Saai also teaches itself through its interaction with farmers, thus improving the quality of the information it supplies over time.

The Hi Saai interface is designed to be user-friendly and accessible to farmers with varying levels of technical expertise and language proficiency (it's currently available in English, isiZulu and isiXhosa, with more languages in the pipeline). The developers believe it to be intuitive and easy to use. "We encourage users to ask questions and engage with the platform," explains De Jager.

Poultry Bulletin test-drove the platform's beta version and found the answers it supplied a useful starting point for further self-research.

Although the platform can't tell you everything you need to know, the more people use it, the better it is likely to become. The full version should be available later this year.

Saai is in discussions to roll out the next phase of Hi Saai to 86 national farmers' organisations across five continents.



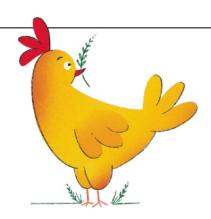
HOW TO USE IT

- Whatsapp "Hi Saai" to 072 457 5570 and wait for the AI to reply before asking your question. NB: start any new question with "Hi Saai" otherwise no response is offered.
- Saai would appreciate feedback from users regarding what works/what doesn't so that it can continue to improve the service. Contact Saai via its website, www.saai.org.

ASK THE EXPERTS

How to think about solar solutions

Can small farmers pin their hope on solar energy? **Albert van Niekerk** has some answers





"As a small farmer who produces 1 000 broilers per cycle, loadshedding is really hurting me. Is there a way I can afford solar?" - Thumi, via Twitter

It seems a straightforward question,

but unfortunately the answer is not, given that a lot of variables contribute to the amount of electricity that needs to be generated, such as how much heating or cooling is needed and the type of lighting a farmer uses. I made a

few assumptions about the equipment Thumi would need for her thousand-broiler operation, and my estimate is that, depending on the level of loadshedding, a 10kVA peak-battery system could do the trick. Working on some assumptions again, such a system will cost her about R300 000, installation included.

By "system" I mean solar panels, an inverter and lithium batteries. A mistake people often make is to think that solar panels on their own are enough. To keep the lights on during loadshedding, your panels must either be integrated with a generator, or feed into an inverter that stores the energy in a battery from where it is released when the Eskom supply fails.

Rent-to-own is an option for farmers, but that depends on the financial institution you apply to for funding. The IDC might be an option, and although the banks are eager to get into solar

financing, they still require you to own the property and submit healthy financial statements. Rent-to-own financing usually has a pay-off period of between five and 20 years.

When a farmer contacts us, the first thing we do is measure how much power is used at which times of the day. This is to make sure that the system is big enough to cover all the peak-demand periods. If the farmer is happy with our proposal, we match the client with the financial institution we think will be most interested to fund the investment. The tax rebate that the finance minister announced in the budget speech this year will help to make solar more affordable, but only applies to asset-finance or outrightpurchase options. Section 12B of the Income Tax Act allows full depreciation

of the system, if under 1MW, in the first year.

When looking for solar providers, do your homework. Get more than one quote, ask for references and then go out to see installations the providers have done. Ask previous clients about the quality of the equipment and the after-sales service. In terms of the latter, I'm sorry to say that Thumi's operation is too small for a solar supplier in a city to consider. Rural installations and technical support only make sense on farms with 10 000 broilers or more.

Albert van Niekerk is the CEO of solar supplier Gentricity. Contact him at albert@gentricity.co.za or visit www.gentricity.co.za.



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CONSISTENTLY DELIVERING

Eggflation: the new 'lipstick index' for a polycrisis?

By Dion Chang



Search for #eggflation on your social media feeds and you'll find an explosion of memes devoted to either the shortage of eggs or skyrocketing prices.

A meme showing a man proposing to a woman with an egg in a jewellery box says it all. "Eggflation" seems to be the new lipstick index for a world in polycrisis.

"Polycrisis" refers to an extended period of instability and insecurity, while the lipstick index is a term coined by Estee Lauder describing increased sales of "affordable luxuries" as an economic indicator. Her premise was that while consumers would cut back on discretionary items in a recession, they nevertheless would still treat themselves to an affordable luxury, like a lipstick.

Eggs are becoming a new affordable luxury as we adapt to a global polycrisis. In many countries the rising cost of eggs have far outpaced that of other essential consumer goods like milk and bread.

This is especially true in Egypt, where the cost of living has skyrocketed to such an extent that meat is no longer affordable and eggs have become a luxury.

But in some other countries it's not just the rising cost of eggs but the scarcity – there are simply no eggs on supermarket shelves.

So, what's driving "eggflation"?

In the last 18 months a perfect storm has been brewing. In many countries there have been outbreaks of highly pathogenic avian flu (HPAI): highly contagious and lethal and can kill 90% to 100% of the chickens it infects, often within 48 hours. Last year, the American Egg Board reported that the industry lost around 60 million birds, of which 43 million were egg-laying hens. The result was a 49% increase in the price of eggs.

If farmers were lucky enough to dodge HPAI, then the ongoing supply-chain disruptions have resulted in skyrocketing prices for bird feed. To add insult to injury the energy crisis (not just in South Africa) has also added to the problem: not only keeping chicks warm, but ensuring consistent cold-chain logistics.

The news that India was set to export a record 50 million eggs to Malaysia in February, signals the humble egg being elevated to a precious commodity.

 $Dion\,Chang\,is\,the\,founder\,of\,Flux\,Trends:\,www.\,fluxtrends.\,com$



ON THE WIRES

Find out what is cooking on the international poultry scene

Compiled by Charmain Lines

HPAI terrorises Latin America



Thirteen out of the 17 countries that make up Latin America have now reported HPAI outbreaks. Only the Dominican Republic, El Salvador, Paraguay and Brazil remain virus free.

In response, the Peruvian government's animal-health agency, Senasa, has just recommended avian-flu vaccination in commercial poultry, joining Mexico that is already vaccinating and Colombia that

recently announced the creation of a vaccine bank against avian flu.

Although outbreaks in Colombia are still confined to wild birds and backyard flocks, the country decided to err on the side of caution by guaranteeing that vaccines are available in case its commercial flock becomes infected. This step is part of a prevention and control programme to stop the spread of HPAI.

In other parts of the world, the H5N1 HPAI virus has been detected in Türkiye for the first time since 2015, and in Nepal a layer flock was culled on a farm near Kathmandu following a confirmed outbreak. Japan has also reported further outbreaks, but good news has come in from Israel and Kazakhstan. Both countries recently declared their HPAI situation "resolved" in poultry and other birds. \blacksquare

Keep your ears peeled

Experienced broiler farmers only have to walk into a chicken house and look and listen for a few minutes to get an accurate idea of how well their birds are doing. The sounds birds make, and their behaviour, can give farmers early warning of potential broiler health and welfare issues.

At the International Production & Processing Expo held recently in Atlanta, Georgia in the US, a system was revealed that elevates the art of listening to birds into a science. The AudioT system uses a combination of acoustic-signal processing techniques and machine learning to track and



analyse the sound in poultry houses. If an event of interest (such as coughs) or an anomaly (such as dry-auger or fan-motor failure) occurs, the farmer receives an alert.

According to its developers, the audio technology can detect potential

environmental issues in addition to assessing behaviour, welfare and health. These include food shortages, disruptions to sleep cycles, low water pressure in the lines, ventilator fans that are about to fail and other unseen or otherwise undetected issues.

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Chickens contribute to pain research

and other birds don't sense capsaicin,

make them taste spicy. Some poultry

the compound in chili peppers that

farmers even put capsaicin in their

poultry feed to deter squirrels, mice

Understanding how chickens

tolerate the taste of spicy peppers could result in a better way to manage pain in humans.

The pain receptors of chickens



how this pain receptor in birds works, researchers at Stanford University in the US have found a specific genetic variant in chickens, known as TRPV1, that reduces the receptor's reaction to capsaicin.

As this gene variant is extremely rare in people, the researchers designed a potential drug treatment that replicates its effects. If the drug passes all the regulatory safeguards, it could help people who suffer from pain caused by diseases that trigger inflammation. In preclinical testing, laboratory mice with the same gene mutation showed an approximately 50% reduction in pain.

While they are not commonly used in research, chickens have made valuable contributions to the understanding of human health. For example, a recent study used chicks to discover more about the causes of autism.

Czech Republic orders poultry indoors

Bucking the worldwide free-range trend,

the Czech Republic has issued an order forbidding poultry breeders and farmers from keeping birds outdoors.

This step was taken in an effort to curtail the spread of HPAI in the country by preventing contact between commercial flocks and wild birds. Related emergency measures limit the movement of people on poultry farms to those whose presence is absolutely essential to the functioning of an operation.

Since December 2022, six new HPAI outbreaks were confirmed in the Czech Republic. Five were on small poultry farms and one on a large duck farm.





Some consumers care, others don't

Eggs are a hot topic in many countries as shortages leave shelves bare (also read "Egg-gate – controversy around New Zealand's egg shortage" on page 40). A newly published US study shows that the cage-free debate does not occupy a similar amount of consumer headspace in America.

The study found that:

- 55% of consumers are primarily motivated by price and do not discriminate between caged and cage-free eggs in the grocery store aisles.
- Consumers prefer government policies to subsidise the transition to cage-free or mandatory labels to policies that call for producers to adopt certain housing practices.
- In terms of policies to restrict housing practices, consumers prefer minimum cage size requirements to the outright ban of conventional production.
- 56% of consumers are unaware of whether their grocery store has made a cage-free pledge, and only 19% believe their store has made such a pledge.

Producers were also surveyed and, on average, they expect cage-free eggs to boost their revenue by 8% – but they also anticipate costs to increase by between 8% and 19%.

The CEO and president of United Egg Producers Chad Gregory says the study confirms what egg producers already know, namely, that cage-free transitions are extremely expensive, take years to implement and must be done in active partnership with their retail customers.

"Further, the study sheds light on one of the greatest challenges – that grocery shoppers do not understand transition deadlines and largely are unwilling to pay the premiums necessary to make the transitions cost-effective for egg farmers and their retail customers."



Iceland ups its food-safety game

An audit carried out in October last year reported some serious concerns regarding food safety in Iceland's chicken abattoirs. As a member of the European Economic Area (EAA) and the European Free Trade Association (EFTA), Iceland's standards of food safety and animal health and welfare are regulated by the EFTA Surveillance Authority (ESA).

During the audit, ESA inspectors noted poor animal-health controls before slaughter and inadequate checks after.

While official veterinary inspections were carried out in the lairage areas as required, some of the ante-mortem inspections were missed because slaughtering started before the official vets arrived at work. Post-mortem inspection concerns included poor inspection facilities on some lines and at one abattoir, carcasses that should have been condemned were missed because the inspector was absent.

While all the facilities visited had been approved by the national authorities, inspectors found some did not meet the standards required. In one case, installation of a new line was almost complete before the Icelandic Food and Veterinary Authority (MAST) was informed.

MAST and the Icelandic government took the audit findings to heart and immediately started taking corrective action.



Inspired by his late mother's entrepreneurship, **Bayanda Maseko** is building a poultry business while also providing tech solutions to other farmers

Employing tech for farm security

He'd had one year at college when Bayanda Maseko's farming journey started at the age of 19, following in the footsteps of his mother, Noliqhwa Nhlapo. Her efforts had seen the business, a family cooperative called Ingwempisi Farming Projects, recognised with several awards and when she tragically passed away in 2019, the family registered a company, Noliqua Legacy, to honour her legacy.

"I immediately changed focus and committed myself to manage the farm, equip myself more and to get as much knowledge as possible to build on the work that my mom had started," Maseko says.

As part of his mission, Maseko participated in the Africa Agribusiness Qualification (AAQ) programme at Gordon Institute of Business (GIBS) in 2021, which he credits with teaching him leadership and management skills. "Many young businesspeople fail due to lack of management skills or the ability to make sound decisions. The programme also exposed us to precision farming methods and various ways to be more accurate and profitable, which enabled me to make better decisions to grow my business."

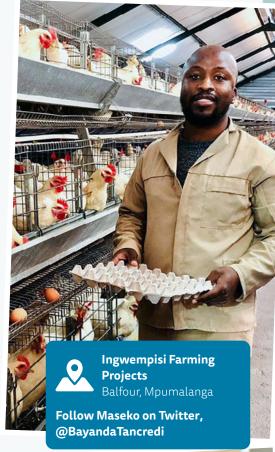
The 78 ha Mpumalanga farm currently has 6 000 layers with a long-term plan and an environmental impact assessment authorising expansion to

200 000. The immediate priority is to increase the flock to 16 000, and structures to house that volume are already in place. Maseko explains that following that, they aim to grow the flock by 20 000 every year, and they are seeking funding opportunities for the expansion. Although the focus is on eggs, they also produce 2 000 broilers per cycle at present, since they have the space. The broilers are sold to hawkers in the townships, while the eggs go to restaurants, resellers and processing companies.

Over the last year or so Maseko spotted a need in the surrounding community for ways to protect farms against criminals who target agricultural operations. "Farms aren't safe these days; we have seen an increase in stock theft and theft of equipment, even with farmers patrolling at night."

He started investigating solutions, and his enquiries led him to a technology that uses 4G smart cameras powered by solar energy. Installing this solution on farms and in households, Maseko is now also giving others a 24/7 view of their property.

"The beauty of this technology





is that you need no cabling, and it even works during loadshedding. The smart camera works either with a 4G sim card or a wifi connection, so you can monitor your property via a smartphone, from anywhere with an internet connection. You can set the alarm, record and get notification of movements on your premises even during loadshedding."

So far he has provided the technology to almost 30 farmers, and also uses it on his own farm. "It offers such peace of mind. Being able to help others keep their businesses safe is so gratifying."





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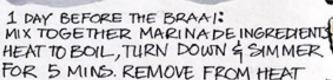
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ASSEMBLY

FIRST, SOAK WOODEN SKEWERS IN A JUG OF WATER FOR 为 HR.

REMOVE CHICKEN FROM
MARINADE & THREAD
THE CHICKEN'S ONION
PIECES ON THE
SKEWERS, PIERCING
EACH PIECE TWICE.





HALVE EACH CHICKEN THIGH.

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