



Poultry Bulletin



THE HEALTH ISSUE

OFFICIAL MAGAZINE OF THE SOUTH AFRICAN POULTRY ASSOCIATION

MARKET SIGNALS UNPACKED AND KEY REPORTS SERVED UP IN BITE-SIZE NUGGETS

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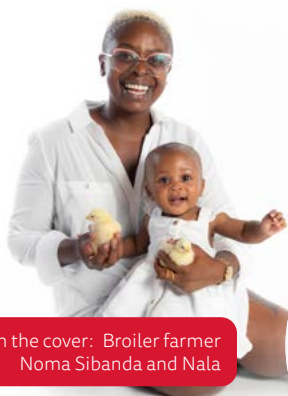
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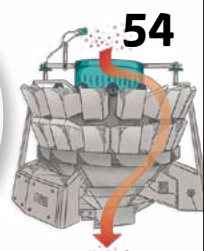
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Talking to farmers always leaves us humbled at the massive effort put in by the custodians of our national flock, and the innovative thinking that characterises those who do well in this business. Poultry people know about grabbing an opportunity and making the most of it, and the ability to think out the box is a quality we see in all successful producers.

When it comes to the threat of avian influenza, creative thinking is becoming more and more necessary. In Europe the disease has now become endemic and is no longer considered a seasonal threat in winter only. Here at home, so far, the African summer seems to keep outbreaks under control, but the wild birds that carry and spread the disease during their annual migration don't carry passports and don't stop at border control posts, so ongoing vigilance is crucial. The vaccination issue is a hot topic, and in this Health Issue we compare the pros and cons of vaccinating against HPAI, and also investigate health issues other than HPAI that keep poultry farmers up at night (page 28). We get an insider's look at the research into poultry disease (page 42), and we hear tips on how to keep poultry healthy through their diet (page 61).

It's that time of year when Easter's increased demand for chicken stretches the market, giving more producers the opportunity to raise a batch of broilers and make some extra income, as our cover star, Noma Sibanda, usually does. This year, she writes in her letter to the editor (page 6), loadshedding and the uncertainties it brings might reduce those numbers. If you are one of the brave, we wish you all the best.

Keep yourself and your flock safe and healthy.

Melinda

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¹. Reference - Data on file. ELA1800037 trial at University of Parana - Dr. E. Santin et al., 2017. The use of antibiotics as growth promoters in performance and intestinal health in broilers challenged with Eimeria and Clostridium perfringens.

². WHO. Critically important antimicrobials for human medicine. 2018. <https://apps.who.int/iris/bitstream/handle/10665/312266/9789241515528-eng.pdf?ua=1>.

³. WHO 2017 Guidelines on use of Medically Important Antimicrobials in food producing animals. <https://apps.who.int/iris/bitstream/handle/10665/258970/9789241550130-eng.pdf;jsessionid=B982A811C8A4F2F79F5C306E2B647D62?sequence=1>.

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A masterplan for egg producers

As the provider of South Africa's most affordable animal protein, the egg industry plays an extremely important role in food security in the country. The industry is also a huge contributor to the economy as the fourth largest livestock sector, with an annual turnover of R11.2 billion, according to 2022 figures.

We have around 200 documented egg producers in South Africa, ranging from backyard operators to large-scale vertically integrated businesses that produce millions of eggs per month. Yet it is a largely fragmented industry, and the need for a cohesive masterplan has become a priority.

South Africans eat about 158 eggs each per year, and one of the key objectives of the new masterplan, as part of the Agriculture and Agroprocessing Masterplan, is to increase the per capita egg consumption to 220 eggs per year by 2030.

This makes sense from multiple angles: nutritionally eggs are a brilliant superfood – one large egg is packed with around six grams of protein and all the essential vitamins and minerals our bodies need. They don't need to be refrigerated, making them even more accessible as a diet staple to millions of cash-strapped South Africans.

The masterplan also has the objective to increase the export of table eggs and egg products to 10% of our egg-production volumes. Although our present production capacity is sufficient for current consumption, the consumption needs to be ramped up, and that will create opportunities for the developing producers, lead to job creation and also benefit the fiscus.

As with the poultry masterplan, transformation is high on the agenda, and in the case of the egg industry one of the strategic approaches to fast track this is to encourage local consumption. Another is for government to investigate new export markets using the Africa Free Continental Trade Agreement, so that market opportunities are increased.

The masterplan also calls for the transfer of ownership to previously disadvantaged entrepreneurs in an orderly, fair and equitable manner.

The transformation agenda will be furthered by collaboration between the public and private sectors, aligning contract egg producers with larger integrated businesses that can offer offtake agreements as well as



'One objective is to establish egg depots in malls and shopping outlets, especially in townships and rural areas'

financial assistance through the Land Bank, the IDC and other state-run financiers to enable smaller-scale farmers to increase their capacity.

The establishment of egg depots in malls and shopping outlets, especially in townships and rural areas, is another objective of the egg masterplan that aims to make eggs an affordable meal in every South African home.

In addition the plan aims to assist smallholder farmers with soft loans, the so-called Amakip-kip – one of the initiatives approved by the Egg Board under the 20% earmarked for transformation activities in the statutory levies.

Health and disease management is the theme of this issue of *Poultry Bulletin*, and it is also a key pillar of the egg masterplan, with biosecurity to prevent highly pathogenic avian influenza (HPAI) high on the priority list. Laying flocks are particularly vulnerable to HPAI and the health of our national flock is foremost.

We look forward to build on our solid working relationship with government to realise our mutual vision: providing low cost, nutritious and versatile egg protein to SA's population, produced by South Africans, providing jobs, enhancing food security and improving transformation. 🇿🇦

Dr Abongile Balarane

CEO, SAPA and GM, Egg Organisation



LETTERS

Our cover star calls on President Ramaphosa to really do something about loadshedding, for the sake of her daughter's generation

The future of Little Nala's generation is at stake if the energy crisis is not solved, writes her mom, Noma Sibanda



Loadshedding is killing us!

Dear Universe, what have we done to deserve this? This may seem like a dramatic opener, but yes, all the wows. Loadshedding has not only affected the poultry industry and agriculture as a whole, it has turned many small-scale poultry farmers into ex-farmers.

The loadshedding affects the heating and cooling of the chicken houses, resulting in a lot of losses and wastage due to failed refrigeration. We rely on electricity to keep the coops warm and with the current power outages day-old chicks do not survive through the night because we can't supply adequate heat of 30 degrees and above in a consistent guaranteed way.

Loadshedding has really crippled our industry and I wonder if there is a comeback from this.

Coupled with the high feed costs that came as a result of the high fuel costs, we are really in trouble and I'm just hoping that somehow things turn around for the better or else we will see more and more farmers exit the industry and that threatens our food security as a country.

Personally I am looking at alternatives to Eskom, but those are capital intensive. Yet what else can we do? We have to soldier on!

I call on President Ramaphosa to stop talking about fixing the energy crisis, and putting real plans in place to stop loadshedding and build electricity generating capacity so that my daughter Nala's generation can hope for a better future.

Noma (Jay) Sibanda
Pretoria North

Ed: A heartfelt cry for help from our cover star. President Ramaphosa, are you listening?



A win for poultry!

Here at Poultry Bulletin we love telling the stories of this key industry and its people, and it is great when those stories touch other people too. The Government Communication and Information System (GCIS) chose a piece from *Poultry Bulletin* as the national winner in the print category of the SADC Media Awards 2022. Editor Melinda Shaw attended the posh event in Sandton to accept the award.

The article, "A Foothold in the Desert" from the October/November 2021 issue highlighted the cross-border collaboration between the South African and Namibian poultry industries and how the support of the South African industry and in particular the South African Poultry Association has enabled growth in the newer, smaller Namibian industry. The article argued for closer regional collaboration across South African Customs Union (SACU) nations to promote regional integration and facilitate a positive trade environment and growth for the agricultural industries across the region.

The keynote speaker at the event, Minister in the Presidency Mr Mondli Gungubele, commended the winners and highlighted the importance of telling the good-news stories that positively contribute to regional integration across Africa. "The manner in which we portray our region becomes even more important given the social and economic challenges it faces. Through media we can disseminate information that

empowers and changes lives," he said. "To the winners: you have done our country proud and shown the spirit needed to take our region forward by your active participation."

The print category was the most fiercely contested with 11 South African entries. In the TV category, Zinhle Makhosazana Dlamini-Mugabe was chosen as national winner from three entries, for a *Special Assignment* piece on the plight of the children of undocumented immigrants. The winner in the photography category,

Sandile Ndlovu, who was one of two South African entries, went on to also win the overall SADC Award for his *Sunday Times* photo assignment about the 2021 Cosafa Beach Soccer Championships. 📷



Our ed with Minister Gungubele, the other national winners and members of the adjudicating panel for the 2022 SADC Media Awards



Minister Mondli Gungubele presents Melinda Shaw with her award



NEWS IN BRIEF

Loadshedding issues, production achievements and more in our news roundup

Compiled by **Charmain Lines**

Loadshedding's poultry toll



The domino effect of loadshedding is being felt throughout society and the economy, and poultry producers and their customers are not exempt.

KFC recently announced that some of its restaurants have temporarily closed due to chicken shortages caused by the electricity crisis. Behind this announcement are millions of day-old chicks that had to be culled because farms had no capacity to take them due to loadshedding disrupting the slaughter schedule.

SAPA's Izaak Breitenbach explains that when chickens are not slaughtered on time, they grow out of specification for the fast-food outlets. "They remain on the farm and they keep feeding, literally eating into the producer's

margins. And then there's no space for the next scheduled batch of day-old chicks, which has led to a huge volume of them having to be culled." The overgrown broilers can't be used by the quick-service restaurants such as KFC and end up in packs of individually quick frozen portions, which skews that part of the market, while hatcheries start adjusting the numbers of eggs they set to hatch to reduce the numbers of day-old chicks... "So it is a complicated chain reaction that hits producers hard and also affects the consumer in the end."

These losses are on top of diesel costs to run generators at processing plants that are estimated to add 75c/kg to chicken prices. 📺

Results worth crowing about



The latest industry competitiveness study done by the Bureau for Food and Agricultural Policy (BFAP) in collaboration with Wageningen University in the Netherlands concluded that South Africa's industry now compares even better with poultry producers across the globe than it did in 2019 when the study was last undertaken.

The study found that South Africa's total cost of production is lower than that of all the EU countries it looked at. Local producers outperform their European counterparts on all the subcomponents examined, such as housing, labour and slaughter costs. The cost of feed and day-old chicks (DOCs) is the exception. DOC costs per kilogram are higher in South Africa due to the costs of imported genetics and feed, given that feed is also the largest contributor to the cost of raising and maintaining breeder flocks.

Counting in South Africa's favour from a total cost point of view is a slightly higher carcass yield and lower labour costs.

Not surprisingly, South Africa still produces a kilogram of chicken at a higher cost than the US and Brazil, but the difference is now smaller than it was in 2017 when the first competitiveness study was done. 📺

Supreme ramps up its crumbed product offering

More than 1 000 tons of crumbed product per month is the target for this year at Supreme's further processing plant in Germiston. This production record will be the latest in a string of achievements for the facility fondly known as the Poultry Palace.

During 2022, a new partially cooked line was installed, joining its three-ton-per-hour fully cooked line. Another line was moved from the Tigane plant to Germiston, and the facility's revamped factory shop was reopened – to the joy of its many customers. Despite having had more than 300 contractor employees on site, no lost time or medical injuries were recorded during the construction activities.

While the revamp was going on, the Poultry Palace completed the major QSR food-safety audits, received halaal accreditation and was certified to export. "We can now produce a variety of products for multinational clients in food service, retail and wholesale," says Arno Kietzmann, Supreme processing director.

In the coming months, Supreme will install another partially cooked line and establish an onsite VLG laboratory to conduct food-safety tests and ensure the highest quality products. 📷



IEC President for AVI Africa

Suresh Chitturi, current president and former chairman of the International Egg Commission (IEC), will be the international guest speaker at this year's AVI Africa conference in June.

Chitturi, who is also the vice chairman and managing director of Srinivasa Farms, one of India's largest egg producers, will enlighten delegates on how India deals with animal-welfare concerns and pressures in terms of cage-free egg production.

Srinivasa Farms is an integrated operation involved in layer and broiler breeding, chicken and egg processing, feed manufacturing, and the extraction and processing of soya oil. It has operations in 16 Indian states and continues to expand.

"There is no doubt that our delegates stand to learn a great deal from Mr Chitturi's experience in India and the perspectives he has gained in his IEC leadership positions," says Dr Abongile Balarane, SAPA CEO and GM of the Egg Organisation. "His company's methods and practices have not only enabled production of several egg variants but also increased production of table eggs, thereby contributing to putting India on the map as the third largest producer of table eggs in the world." 📷



CHICK OF THE MONTH



Check out the Koekoek from Potch

There is growing recognition of the notion that indigenous chicken breeds are often better able to cope with climate change than most commercial breeds. In acknowledgement of this, and because we're curious, *Poultry Bulletin* will be highlighting some of Southern Africa's indigenous breeds in upcoming editions.

The first featured bird is the Potchefstroom Koekoek (which must be the winner of the prize for the most indigenous name!).

Developed in the 1960s at the Potchefstroom Agricultural College by one Chris Marais, the Koekoek is the result of crossbreeding Black Australorps, White Leghorns and Barred Plymouth Rocks to create a breed particularly suited to Southern African conditions.

The breed was intended as a dual-purpose, free-ranging chicken with laying capabilities as well as a large structure for meat production. A heavy breed with soft feathers, they

can weigh up to 4.5kg for mature roosters and 3.5kg for hens. Hens produce about 198 eggs per year with an average weight of 55.7g. Koekoeks maintain good egg production even when they have poor quality feeding.

A particularly handy feature of the breed is that day-old male chicks have a distinct white spot on their heads, which makes sexing quick and easy. 📷





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Loadshedding a risk to SA agriculture

By **Wandile Sihlobo**

There is no issue more urgent than the worsening energy crisis for South Africa's agriculture and agribusiness sectors. From poultry farming to grains, the impact of severe loadshedding is devastating.

Consider farmers that rely on irrigation for crucial field crops; roughly 20% of maize, 15% of soya bean, 34% of sugarcane and nearly half of South Africa's wheat are produced under irrigation. Fruit and vegetable production also relies on irrigation and thus faces similar challenges. In poultry, red meat, piggery, wool and dairy production, loadshedding beyond stage two makes operations and planning challenging, as these industries all require continuous power for their usual activities.

Agribusinesses face similar challenges in various downstream processing activities, such as milling, baking, slaughtering, wine processing, packaging and animal-vaccine production.

The financial impact on farmers, agribusinesses and food security is not yet clear and will be difficult to quantify.

There are also food-security concerns as the effect of loadshedding will probably show in the volumes of products to be harvested later than usual in the coming months due to the time lag in agricultural production stages.

The other emerging concern is the impact on jobs if businesses are severely affected. There is a real danger that some farmers could lose their crops, which would impact the farms' financial future and likely also have a negative impact on agricultural financiers.


Total exemption of the sector from loadshedding will be near impossible. Many food-processing companies and farms are technically linked to other localities and cannot be easily insulated from loadshedding.

Investing in alternative power sources will need to be prioritised where financial resources permit. The financial commitments associated with this may be large, and businesses may also encounter regulatory hurdles. These financial or regulatory limitations should be shared with



Another emerging concern is the impact on jobs if businesses are severely affected by loadshedding

the Department of Agriculture, Land Reform and Rural Development (DALRRD) so that it can help address them within its available resources and means.

Additionally, if the government could also consider subsidies for solar panels and battery storage on top of relaxing these requirements, many farmers could go off the grid and generate enough power for their systems. 

Wandile Sihlobo is the chief economist at the Agricultural Business Chamber of SA



A CHICKEN DYNASTY IN POTCH

Three generations of Fouries have produced chicken in the North West over the last 70 years. **Diane McCarthy** takes a closer look at this successful family business



The family bonds are strong. Three generations of Fouries at the Abu Dhabi Grand Prix in November 2022. At the back MD John Fourie Sr and his son Johnathan; in front Deon Fourie and his son John Jr

POULTRY PEOPLE



John Fourie named the brand Chubby Chick when he took over the farm

Established way back in 1955, Fourie's Poultry Farms, aka Chubby Chick, has been run by the Fourie family since its inception. But you won't easily find a Chubby chicken on your local supermarket shelves. Agricultural director Deon Fourie, also a member of SAPA's Broiler Board, explains, "We trade as Chubby Chick, a name my father came up with when he took over. But these days we don't sell much product under that name. A large portion of our business is with our main client, Woolworths, and that chicken is unbranded. We also supply broilers to our own franchise retailer and wholesaler, OBC, where they carry the OBC and Chubby Chick branding."

Fourie's grandfather and namesake Deon Fourie started the business on a smallholding outside Potchefstroom in the North West. "When my grandfather passed away in 1969 his sons took over, each taking control of a different aspect: rearing, laying, hatchery and broiler supply. My father, John, was the keenest poultry farmer and eventually bought his brothers out, integrating all the divisions."

Currently there are two hatcheries and two slaughterhouses, one for commercial broilers, and one for free-range. The Fouries produce 650 000 commercial birds and 120 000 free-range birds a week, all slaughtered on site. They employ about 3 000 people and, barring North West University, are the biggest employers in Potchefstroom. Patriarch John is the MD, in charge of stock and pricing. Deon runs the agricultural division and his brother Johnathan takes care of processing.

Fourie explains that the Woolworths connection has long been the mainstay of the company. In the early days, looking for a market for his birds, John Fourie had approached the then MD of Woolworths, David Susman, with a view to doing business with the retail chain. "Susman agreed to try our product in the store closest to the farm, in Carletonville, saying, 'Let's give it a bash, and take it from there.' They got a good response from shoppers so slowly we were given more and more stores to supply," he says. "Eventually we were supplying their stores nationwide with the exception of the Western



Johnathan Fourie manages the processing plants and his son Robert will join the family business once he graduates

POULTRY PEOPLE



The Fouries produce and slaughter 650 000 commercial broilers every week at their farm in Potchefstroom



Chubby Chick-branded poultry is sold at the Fouries' own franchise chain, OBC

Cape, which for logistical reasons we decided not to pursue."

The relationship is like a happy marriage, Fourie says. "We have our ups and downs and anything that niggles can be smoothed over without denting the partnership – and we value the opportunity to explore new options with a trusted partner."

Their free-range division is the result of one such opportunity, which came about a dozen years ago when Woolworths set them the challenge to start supplying free-range chicken. The Fouries set up the operation and started by producing 20 000 birds weekly. The growth was sharp and two years later they were supplying 100 000. However, that is where the demand peaked, and there has not been further growth over the last decade. Says Fourie, "There seems to be only so many people in our region willing to pay extra for free-range."

There's good reason for the higher price tag – as anyone who has embarked on free-range farming will tell you, it is a costly endeavour. Fourie explains, "To be able to claim the free-range label on meat there are restrictions on certain medications, so feed conversion isn't as good. You also house fewer birds per square meter, so efficiencies are down, and you need

Fourie's Poultry Farms supply Woolworths stores across the country

more houses for the same number of birds. It all adds up to make the whole production process more expensive."

Value for money has always been top of mind in the South African marketplace, and chicken is highly prized as the most affordable meat on supermarket shelves. It's a hard sell to convince the majority of consumers to pay a higher price when standard commercial chicken is available.

Having solid regular business is a blessing, but the Fouries are not immune against the challenges faced by all poultry farmers in 2023. Loadshedding, sky-high grain prices, energy costs, fertiliser scarcity and the threat of avian flu all contribute to a tough business environment, so the company has no further expansion plans for the immediate future. "We take our cue from our clients, and for now we are focusing on maintaining where we are," says Fourie.

This is a lesson learnt through experience,

as their last growth project, undertaken in 2008, did not have the long-term outcome they had hoped for. Shortly after they invested in a 50% expansion, world markets crashed and their projected growth failed to materialise. To accommodate this, the Fouries pivoted the business into frozen product, which was easier to sustain at the time. But, says Fourie, their preference for fresh remained so once the market improved, the company was happy to go back to supplying fresh chicken into the market.

After 70 years in the business the Fouries understand the cyclical nature of the industry and are not overly spooked by the current tough trading conditions. The company has faced similar hurdles before and has every intention of riding this one out and staying on top.

The dynasty is certainly secure, with the next generation of Fouries gearing up to continue the legacy. Deon's son John Jnr, 24, is already with the company and is currently learning the business as assistant farm manager. Johnathan's 20-year-old son Robert also intends to join as soon as he has completed his BCom degree at Stellenbosch University.

Times may be tough, but this family is up for the challenge. "We have to be," says Fourie. "It's the only way we know how to make a living." 🐔

Chick graders sorting for quality. They count between 90 000 and 150 000 chicks per day, six days a week



In 2022 the company upgraded both its hatcheries, installing Petersime X-Streamer Intelligent Incubators to increase the total setting capacity to over 11.5 million eggs



The new incubators have a setting capacity of 115 200 eggs per machine



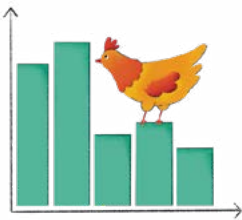
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SAPA's latest essential industry information as shared with members

Compiled by **Michael Acott**

SAPA to fight for its members in 2023

Broiler Organisation GM **Izaak Breitenbach** gives an overview of the issues that SAPA will tackle this year on behalf of all members of the association, and producers countrywide

Izaak Breitenbach
talks duties, VAT
and vaccination



The SA Poultry Association

(SAPA) will be fighting on behalf of its members on a wide variety of issues during 2023. They range from the promotion and expansion of the industry through the poultry masterplan to protection against predatory imports and the implementation of our export drive, particularly to the European Union and the Middle East.

In addition, we will renew our call for value-added tax (VAT) to be removed from the chicken portions most purchased by poor households, and to expand our campaign for wider adoption of the food-safety stamp of approval, which tells consumers that the product meets food-safety standards set by the government.

There have been mixed results in the campaign against unfair and illegal trade. We have now secured antidumping duties against the nine countries we targeted, but the

big disappointment has been the government's decision to postpone for a year the antidumping duties it approved against Brazil and four European Union countries.

We are also taking a much closer look at imports from Argentina, which have risen sharply as avian influenza has impacted on production in the EU and the United States.

Another key measure is also on hold – an investigation into a revision of the import-tariff structure for





chicken has been completed, but the government has not said what action it will take. We are hoping for tighter import-tariff codes to prevent the circumvention of import duties, and a reference price (floor price) for chicken imports.

On the other hand, the SA Revenue Service (SARS) is having some success in identifying incidents of roundtripping, where chicken is imported duty free because it is supposedly for re-export but then it actually stays in South Africa.

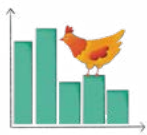
SAPA will support the renewal of antidumping duties against the US, and oppose the extension of the AGOA duty-free quota when it lapses in the near future.

There are also two items of very good news. The first (as we report on pages 8 and 24) is that the Bureau for Food and Agricultural Policy (BFAP) has once again established that the South African industry is efficient and competitive, particularly against EU countries.

▲
SAPA will be campaigning for the lifting of VAT on certain poultry products

The second is the possibility that South Africa might move to vaccination to counter avian influenza, instead of the mass cullings that have devastated the industry (also read "Prevention and cure" on page 28). If the EU legislates for vaccination, as we expect, we will pursue this with the government. 📌

'We're hoping for tighter import-tariff codes to prevent import duties being circumvented'



Poultry prices rising slower than food inflation

Last year, poultry price increases were below food inflation levels, both in South Africa and internationally.

SAPA's Key Market Signals for the Broiler Industry for the third quarter of 2022 compared the broiler producer price index to the SA food and non-alcoholic beverages (NAB) price index (urban centres). The comparison used December 2021 as the base year (rebased January 2022).

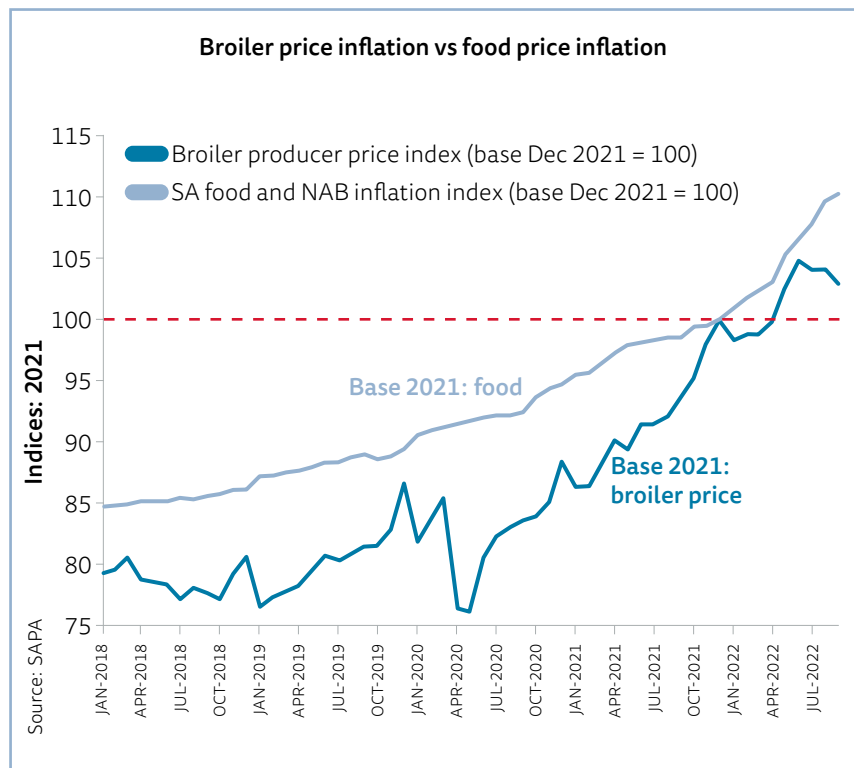
The results showed the broiler price index consistently below the food price index from January 2018, with the gap widening after July 2022 as food prices kept on rising and the broiler index dropped.

The picture is the same internationally. The average producer price for broilers in South Africa rose 1.3% in the third quarter, and was 11.3% higher than the third quarter of 2022.

Internationally, food prices have risen far more steeply. By the third quarter of 2022, the global food price index of the Food and Agricultural Organisation (FAO) was 19.5% higher than the previous year. The FAO's index price for meat and cereals was up 13.0% and 21.8%, respectively.

As SAPA consistently points out, broiler prices are low in real terms, that is, after inflation. Nominal producer prices (that is, the sales price) rose on average from R22.44/kg in 2018 to R28.93 in the third quarter of 2022.

However, the real price, after discounting for inflation, rose far more



modestly, from R22.44 in 2018 to R23.33 in 2022.

In South Africa, pork prices have increased more slowly than broilers, and pork is now cheaper than chicken at the producer level. The average price of pork (all classes) rose 3% on an annual basis to R26.95/kg in the third quarter of 2022. The average producer price for broilers (total realisation) rose 12.1% over the same period, reaching R29.54/kg in the third quarter. 📊

Food prices have risen far more steeply internationally than in SA

SA chicken consumption down slightly

Year	2018	2019	2020	2021	2022 YTD
all food	94.2	95.7	99.2	125.7	146.9
% change		1.5	3.7	26.8	16.8
meat	93.2	100.6	96.6	107.7	120.2
% change		7.9	-4.0	11.6	11.6
cereals	99.0	97.2	104.2	131.2	156.3
% change		-1.9	7.3	25.8	19.1

▲ Annual global food price indices
Source: FAO

After touching 200 000 tons in May 2022, South African chicken consumption dropped back slightly in later months.

SAPA's broiler production report for September 2022 showed that domestic consumption declined after May and was down to just under 164 000 tons for September. Consumption is defined as local production, plus imports, minus exports.

Over the first nine months of 2022, South African production totalled 1 373 940 tons, and consumption was 1 624 961 tons. Imports were 286 542 tons, making up 20.9% of local production and 17.6% of South African consumption over that period. 📊



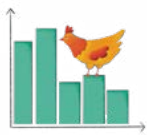
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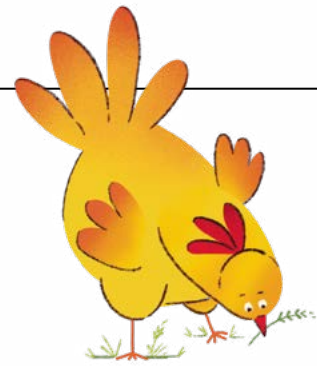
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Will imports surge in 2023?



A sudden spike in poultry imports in November 2022 will have South African producers watching closely to see whether this is an anomaly or a trend.

Poultry imports have been declining steadily since a peak in 2018, and that continued for much of 2022. This includes the sensitive category of bone-in imports, which compete with local individually quick frozen (IQF) portions.

Brazilian producers were given an incentive in July 2022, when the South African government suspended provisional antidumping duties, and announced that new five-year antidumping duties on bone-in portions would not be applied until August 2023.


So far Brazilian producers have not taken advantage of their window of opportunity, though that may be about to change. After months of decline, import volumes suddenly increased in November 2022. This included poultry meat (up 59.7% month on month), broilers (up 64.8%), bone-in portions (up 164%), offal (up 89.1%) and mechanically deboned meat (MDM) (up 35.1%).

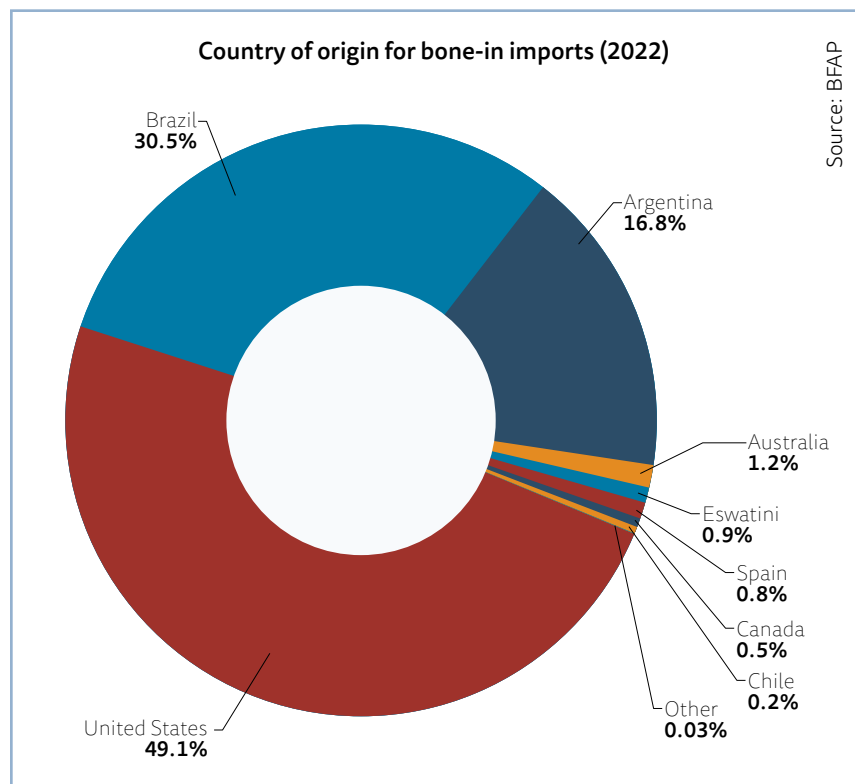
Imports from Brazil alone rose 42.8% in November, although Brazilian volumes are still slightly (2.5%) below the first 11 months of 2021. Bone-in imports comprised 5.3% of Brazil's import volumes, up from 2.4% in October. This is still way down on the 46% recorded in

February 2018, when Brazil took advantage of previous bird-flu bans on European Union products.

It is clearly too early to know whether Brazil is about to launch a new assault on the South African poultry market. Statistics for December 2022 and the first months of 2023

will give a clearer indication.

At the moment, the main supplier of bone-in portions to South Africa is the United States. In the first 11 months of 2022, the US supplied 49.1% of bone-in imports, followed by Brazil (30.5%) and then Argentina (16.8%). 



After months of decline, import volumes from Brazil suddenly increased in November

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1. Callender ME and Jeffers TK (1980). Anticoccidial Combinations Comprising Nicarbazin and the Polyether Antibiotics. US Patent 4,218,438, pp1-12.

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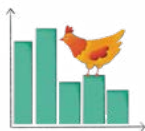
Registration number: G0976 (Act 36/1947).

Registration :Elanco Animal Health, Co.Reg.No.: 1957/000371/07 Private Bag X119, Bryanston, 2021, RSA. Tel.: (012) 657 6200 Fax.: (012) 657 6216

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SA poultry looks good, says Rabobank



International food and agri bank

Rabobank says it is optimistic about the future of the South African poultry industry. The comment comes in Rabobank's Global Poultry Quarterly for the first quarter of 2023.

"Rabobank is optimistic about the outlook for poultry. The industry remains relatively disciplined in terms of supply growth, while demand is relatively strong. Competitive meat prices, especially that of beef, is expected to stay strong. The South African beef sector is struggling with foot-and-mouth disease (FMD) outbreaks and has implemented a standstill in August, which will impact supply and is likely to lead to rising beef prices."

The bank said the South African chicken industry has been performing relatively well. Consumer demand from food-service and retail markets is strong, mainly driven by consumers trading down to chicken, and by the full reopening of the economy after the Covid pandemic.

Supply has been relatively tight, with production growth remaining below the 2.3% market growth. The result has been a 6% increase in import volumes.

"On the downside, concerns from the South African government about food-price inflation (with chicken a key source of food) has led to the decision to temporarily lift antidumping import restrictions on Brazil, Denmark, Ireland, Poland and Spain. Although some of these countries are affected by AI restrictions, it will lead to a rise in South Africa's imports and pressure on prices.

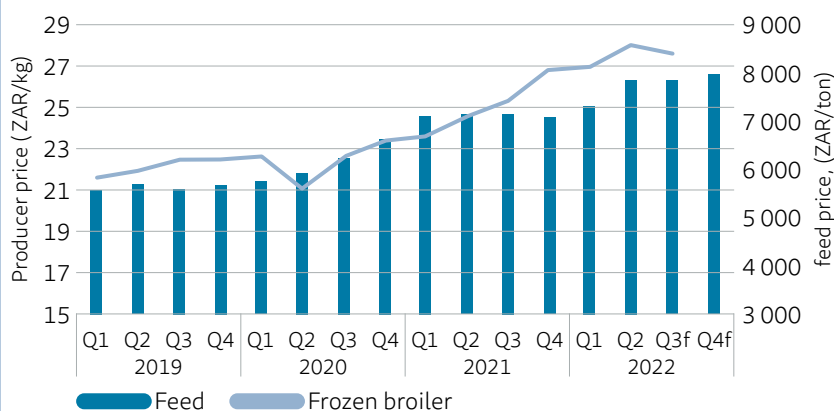
"This will challenge producers as SAFEX future prices indicate no room for the reduction in feed prices that other countries are currently experiencing," Rabobank said.

Rabobank forecast that global demand for chicken would remain strong in 2023, despite beef becoming more competitive as prices fell from

recent highs. A weaker economic climate with pressure on consumers' spending power will lead to more price-driven consumer behaviour, which supports poultry as the cheapest meat protein.

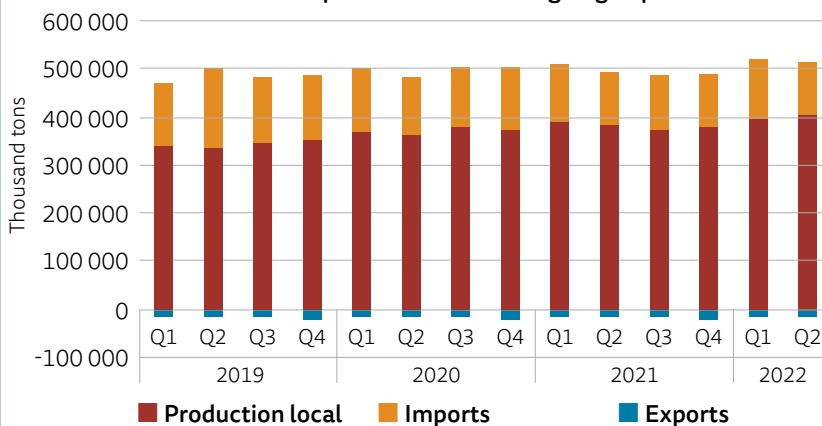
In Europe, whole-broiler prices had risen by 30%, breast meat was up by 28% and chicken legs by 32%. 📺

South African chicken prices keep rising on higher feed costs



Source: SAPA, News24, SAFEX, Rabobank 2022

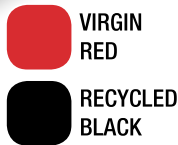
South Africa production shows ongoing improvements



Source: SAPA, News24, SAFEX, Rabobank 2022

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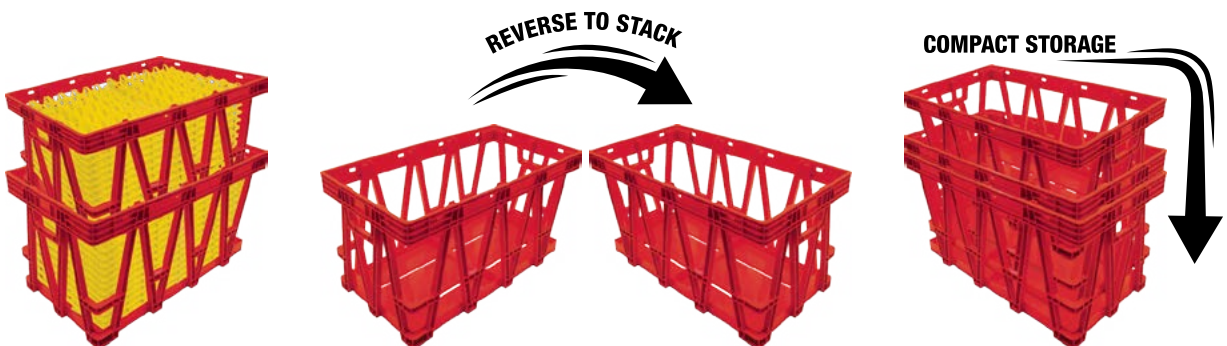
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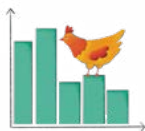
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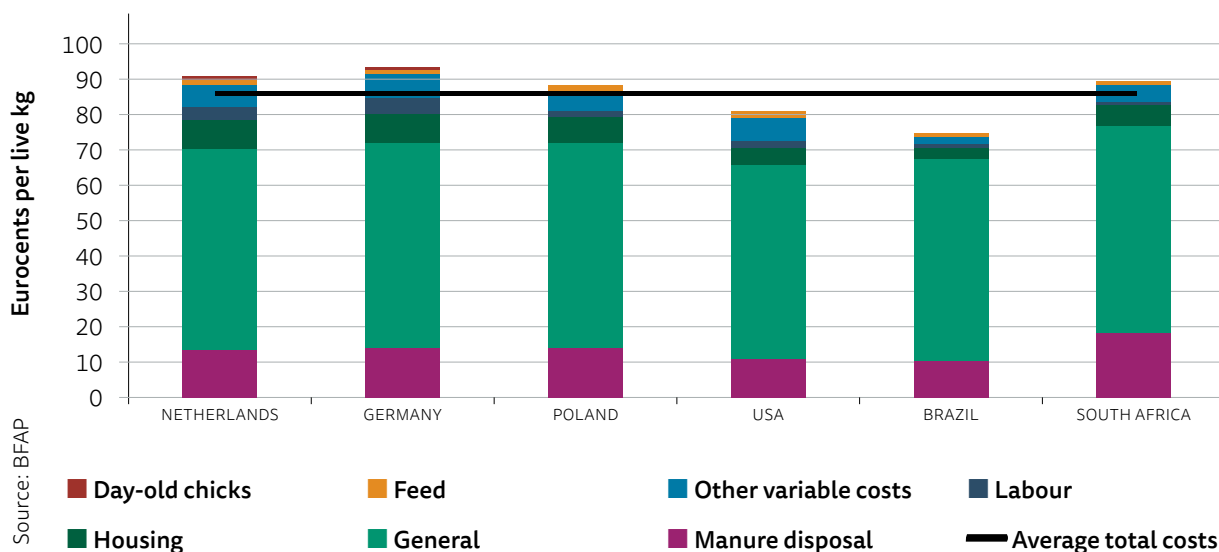
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SA can compete in the EU, says BFAP



Primary broiler production costs in selected countries: 2021



South African poultry should be competitive in Europe, because South Africa consistently produces chicken meat cheaper than poultry operations in the European Union (EU).

This is the conclusion of the latest poultry competitiveness report from the independent Bureau for Food and Agricultural Policy (BFAP). Since 2015, BFAP has regularly compared production costs and other competitive factors for South African and major global chicken producers.

The 2021 survey, released at the end of 2022, showed that South Africa has remained ahead of EU producers, but is still behind Brazil and the

United States because these countries produce their own soya and thus have lower feed costs. That gap is however narrowing as South African soya production rises.

South African producers have improved the feed-conversion rate and increased the number of broilers per worker as feed costs rose rapidly. Despite labour-price increases, lower worker costs reduced slaughter costs relative to EU producers.

"South African producers remain competitive and were shown to produce a kilo of chicken meat at a lower cost relative to the European producers included in the sample, but also at a higher cost than leading exporters such as the USA and Brazil. This difference to Brazil and the USA declined in 2021 relative to 2017,"

BFAP said in the report.

"Nevertheless, while there are signs of convergence, absolute production costs in EU countries remain higher than in South Africa and even if HPAI restrictions are lifted, South Africa should be able to compete with European producers, but carcass valuation strategies and premiums obtained in the EU for breast meat also have an influence on this picture.

"While the improvement in relative competitiveness to Brazil and the United States is positive – particularly in light of the poultry masterplan's objective of growing exports – future strategies will need to consider such differences in the marketing and carcass valuation strategies globally," BFAP stated. 📄

Frozen-chicken prices outstrip fresh

Producer prices for frozen chicken rose faster in the first nine months of 2022 than prices for fresh chicken.

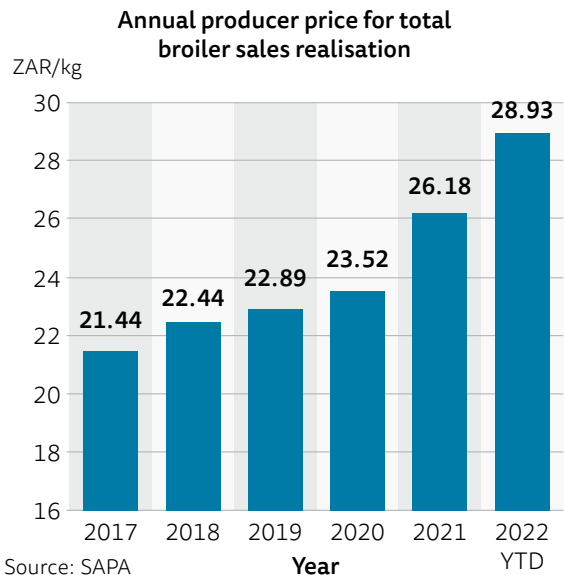
SAPA's broiler-price report for September 2022 showed that average producer prices rose 10.5% to R28.93/kg between January and September. Fresh-chicken prices were up 6.3% to R35.93/kg, while frozen chicken rose 10.9% to R27.81/kg.

The production ratio over that period was 85.4% frozen product and 14.6% fresh chicken.

The producer price for individually quick frozen (IQF) portions was R28.61/kg, down slightly from the R29.28/kg realised in previous months.

In 2022, the total broiler sales realisation on a monthly basis rose from R27.99/kg in January to R29.31/kg in September.

Annual producer prices rose from R21.44/kg in 2017 to R26.18 in 2021. As at September 2022, the average for the year was R28.93/kg.



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Square Metres), ERF NUMBER 1230 (MEASURING 1 060 Square Metres) and ERF NUMBER 1231 (MEASURING 1 060 Square Metres) RIVIERSONDEREND, DISTRICT OF THE THEEWATERSKLOOF LOCAL MUNICIPALITY, WESTERN CAPE PROVINCE

VIEWING: BY APPOINTMENT: 6 - 10 FEBRUARY, 2023 FROM 09:00 - 15:00



PANFONTEIN / VEREENIGING, GAUTENG PROVINCE

PROPERTY
By Special Power of Attorney: Portion 10 of the Farm Panfontein, Vischgat Road, Vereeniging (RE OF PORTION 10 OF THE FARM PANFONTEIN NO. 437, IR, DISTRICT OF THE MIDVAAL LOCAL MUNICIPALITY - MEASURING 83.6491 HECTARES), VEREENIGING, GAUTENG PROVINCE. Large Industrial Property, estimated GLA 9 032 Square Metres, comprising Main Office Building, Ancillary offices, Staff Ablution facilities, Canteen, Laboratory, Weight Bridge office, Security office, Manufacturing and Storage Warehouses, Grain Storage Silos, Workshop, Compressor Room, undercover Staff Parking and Two (2) Residential Dwellings and, duly instructed

by the Joint Liquidators, together as one Lot with;

PLANT, MACHINERY, EQUIPMENT & OFFICE FURNITURE - list available online

VIEWING: BY APPOINTMENT: 6 - 10 FEBRUARY, 2023 FROM 09:00 - 15:00



VRYBURG, NORTH-WEST PROVINCE

PROPERTY
By Special Power of Attorney: Number 5 Industria Street (ERF 2493 AND ERF 883 VRYBURG, DISTRICT OF THE NALEDI LOCAL MUNICIPALITY, NORTH-WEST PROVINCE - TOGETHER MEASURING 2.5389 HECTARES), VRYBURG, NORTH-WEST PROVINCE. Large Industrial Property, estimated GLA 9 285 Square Metres, comprising Main Office Building, Ancillary offices, Staff Ablution facilities, Canteen, Weight Bridge office, Grain Mill warehouse and Grain Storage Silos, storage, warehouses, workshop, lean-to shed undercover Staff Parking and access to a railway reserve and, duly instructed by the Joint Liquidators, together as one Lot with;

OFFICE FURNITURE & EQUIPMENT

Assorted Office Furniture & Equipment including Desks, Chairs, Tables, Filing Cabinets, Printers, Bookcases, Credenzas, Shelving, etc.

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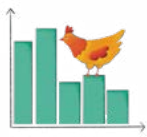
RIVIERSONDEREND, WESTERN CAPE PROVINCE

PROPERTY
By Special Power of Attorney: Number 1 Van Riebeeck Avenue, Rivieronderend (ERF NUMBER 1716 RIVIERSONDEREND, DISTRICT OF THE THEEWATERSKLOOF LOCAL MUNICIPALITY - MEASURING 83.6491 HECTARES), CALEDON DISTRICT WESTERN CAPE PROVINCE. Large Industrial Property, estimated GLA 4 472 Square Metres, comprising Grain Mill Warehouse, Ancillary offices, Staff Ablution facilities, Weight Bridge office, Security office, Manufacturing and Storage Warehouses, Grain Storage Silos, Workshop and Compressor Room and, duly instructed by the Joint Liquidators, together as one Lot with;

PLANT, MACHINERY, EQUIPMENT & OFFICE FURNITURE - list available online

Separate from, or together with;

By instruction from the Joint Liquidators: Four (4) Vacant Stands - Muller Street, Rivieronderend being ERF NUMBER 1228 (MEASURING 1 047 Square Metres), ERF NUMBER 1229 (MEASURING 1 060



An encyclopedia of small-scale farmers

SAPA is steadily increasing the number of subsistence and small-scale farmers included in its twice-yearly surveys. The results provide small-scale poultry farmers throughout the country with statistics on production and pricing which they can use to benchmark and improve their own operations.

In addition, local and international organisations, banks, government departments, research organisations and investment houses use the statistics to make strategic decisions about funding and research priorities.

The survey produces statistical information on the performance of small-scale egg and broiler producers, contract growers, hatcheries and abattoirs. It also includes cull-hen sales and feed prices.

In the winter survey conducted in

the second half of 2022, 519 farmers were interviewed countrywide, 99 more than in the first half of the year. Most were broiler farmers (342) and egg producers (150).

Of those surveyed, 46 had stopped farming, but most hoped to resume operations in future. Their reasons for stopping ranged from poor performance of birds and stock shortages to weather, financing difficulties, high cost of feed and problems experienced with water and electricity supplies.

The survey showed small-scale broiler farmers had sold live birds to the value of R28.9 million in the second half of 2022, at an average price of R69.51/bird. Small-scale abattoirs sold broiler meat worth R5.6 million, at an average price of R31.95/kg.

SAPA noted that broiler farmers were using less than 30% of their capacity – 216 500 birds on farms with a capacity of 778 200. This meant that there was opportunity to increase output and turnover, despite the difficult trading conditions and high input prices.

Total egg sales amounted to 27 400 dozen per week. The total value of the eggs sold for the first half of 2022 was R12.4 million.

Eggs were sold to the community directly, retailers, supermarkets, crèches, agents, pensioners, wholesalers, hawkers, restaurants, a game reserve, taverns, local spaza shops and guest houses, and at pay points, schools and informal markets. As they sell direct to consumers, small-scale egg producers get slightly higher prices than commercial farmers. 📺

Survey results for 2H2022

INTERVIEW RESPONSES	2H2022					
	Farmers interviewed: 1H2022	Farmers interviewed: 2H2022	* No. of complete questionnaires	No. of farmers who resumed farming	No. of unreachable farmers	No. of farmers who stopped farming
Broiler farmers	273	342	312	28	12	30
Egg farmers	123	150	137	18	4	13
Contract growers	7	7	7	0	0	0
Hatcheries	9	14	12	0	0	2
Abattoirs	8	6	5	0	0	1
TOTAL	420	519	473	46	16	46

*Includes number of farmers who resumed farming

Source: SAPA



SOUTH AFRICAN POULTRY ASSOCIATION

OFFICIAL NOTICE - CONGRESS 2023

To all members of the South African Poultry Association

Issued by: The General Manager, South African Poultry Association, PO Box 1202, Honeydew, 2040.

SAPA EGG ORGANISATION

Notice is hereby given that the 50th Annual General Meeting of the SAPA Egg Organisation will be held on Tuesday, **6 June 2023**, at Emperors Palace.

Resolutions: All members of the SAPA Egg Organisation may submit resolutions for the Agenda of the Organisation's Annual General Meeting, accompanied by a written motivation for consideration by the Board. A Board meeting will be held at the rising of the Egg Organisation Annual General Meeting.

Deadline: 11 April 2023

SAPA BROILER ORGANISATION

Notice is hereby given that the 50th Annual General Meeting of the SAPA Broiler Organisation will be held on Tuesday, **6 June 2023**, at Emperors Palace.

Resolutions: All members of the SAPA Broiler Organisation may submit resolutions for the Agenda of the Organisation's Annual General Meeting, accompanied by a written motivation for consideration by the Board. A Board meeting will be held at the rising of the Broiler Organisation Annual General Meeting.

Deadline: 11 April 2023

SAPA CONGRESS 2023

Notice is hereby given that the 117th Annual Congress of the SA Poultry Association will be held on Tuesday, **6 June 2023**, at Emperors Palace.

Resolutions: Only members of the SAPA Board, the affiliates and Honorary Life Members may submit resolutions for this Agenda. A SAPA Board meeting will be held at the rising of the Congress.

Deadline: 11 April 2023

REPRESENTATION - HONORARY LIFE MEMBERS

Honorary Life Members of SAPA, who are prepared to represent this group's interests at the 117th Annual Congress, are requested to notify the General Manager, PO Box 1202, Honeydew, 2040, before **11 April 2023**.

Honorary Life Members are entitled to one representative at the Congress in terms of the SAPA Constitution.

Deadline: 11 April 2023

THE BIG HEALTH ISSUE



PREVENTION AND CURE:

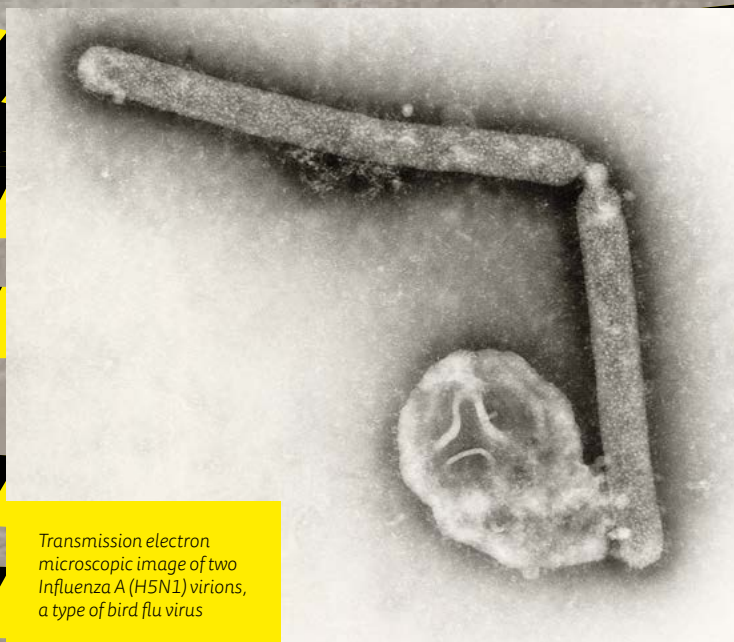
THE POULTRY DISEASE MAP

Nobody knows what the future has in store for our industry, but diseases such as HPAI will always be part of the landscape that has to be navigated.

Charmain Lines investigates this and other health issues

Flock health is not only a problem when layers and broilers start dying. Even if they don't have visible symptoms, sickly birds are less productive and don't provide the best quality meat and eggs. Farmers end up having to keep more birds to achieve the desired production levels, costs increase along with environmental impacts and consumers get less bang for their buck in their shopping trolley.

Flock health is, therefore, at the heart of a successful poultry production business and industry.



Transmission electron microscopic image of two Influenza A (H5N1) virions, a type of bird flu virus

THE 2021/2022 AI EPIDEMIC

Highly pathogenic avian influenza (HPAI) is the biggest poultry-health concern at the moment, given that the epidemic that started in Europe before September 2021 and continues to rage is the largest ever on record. Between September 2021 and October 2022, a mindboggling 50 million birds were culled.

Outbreaks were reported from the Svalbard islands in Norway to southern Portugal, and as far east as Ukraine. A total of 37 European countries have been affected.

The distinguishing features of this epidemic include the fact that it did not disappear during the summer months. Whereas bird flu used to have a clear seasonal pattern, the game changed from 2021 onwards. While the number of outbreaks in Europe from June to September was significantly lower than in the

winter, the 788 reported cases were five times higher than in the same period in 2021.

Of the reported cases, 710 occurred in wild birds in 15 European countries. The virus even made its way to seabird breeding colonies on the north Atlantic coast, resulting in large numbers of birds dying, particularly in Germany, France, the Netherlands and the UK. A report from the International Seabird Group conference held in November 2022 warned, "We can expect HPAI to persist into the next breeding season and beyond, with unpredictable consequences."

In autumn 2021, the H5N1 virus crossed the Atlantic Ocean for the first time, spreading from Europe to North America along migration routes. In addition to wild birds dying, the spread caused a severe epidemic in poultry in several Canadian provinces and US states. By December 2022, more than 46 million birds had either died or been culled.

In South America, new cases continue to be reported in Colombia, Peru, Ecuador, Venezuela and Chile. For now, only backyard

THE BIG HEALTH ISSUE

poultry flocks have been affected but the severity of the epidemic is underlined by the fact that more than 13 000 pelicans have already died in Peru. Argentina, Brazil, Paraguay, Bolivia and Uruguay have not registered outbreaks so far, but have activated emergency plans to protect their commercial flocks. Brazil and Argentina enjoy some protection from Mother Nature in the form of the Andes Mountains that presents a physical barrier in wild-bird migratory paths.

In South Africa, 3.8 million poultry and other commercially reared birds have been lost to HPAI outbreaks of the H5N1 strain in 93 locations since March 2021.



Health workers on Punta Hermosa beach in Lima, Peru, where bird flu is claiming pelicans

TAKING ACTION AGAINST HPAI

Global opinion on how to manage HPAI is shifting. At the International Alliance for Biological Standardisation's conference on HPAI vaccination held at the World Organisation of Animal Health (WOAH) in Paris last year, HPAI vaccination enjoyed widespread support from the international scientific community. "The barriers to effective vaccination are no longer technical, but are principally political and economic," concluded the WOAH report.

Currently, HPAI is being controlled by identifying infected flocks and destroying them as quickly as possible to limit spread. The failure of this approach, despite its diligent application, is evident in the massive and ongoing HPAI outbreaks worldwide. In addition, the cost and wel-

fare concerns associated with large-scale culls of animals are prohibitive, as is the reality that both wildlife diversity and food security are threatened by the fact that up to 85% of birds culled are not actually sick.

In South Africa the burden of these costs falls on individual producers as government is not able to provide compensation. There's also the environmental impact of disposing of millions of bird carcasses to consider.

Growing consensus that culling as a management strategy has run its course is reflected in the French agriculture ministry's new action plan against HPAI that includes a vaccination strategy, additional biosecurity measures and better protection for producers of fattening ducks and geese. Having borne the brunt of the 2021/2022 outbreak – over 21 million birds were lost – France is spearheading vaccination as an HPAI management tool.

In May 2022, the European Council under the French presidency supported member states to intensify the development of vaccination as a way to control HPAI. Vaccine trials have been set up in

YES OR NO: THE HPAI VACCINATION DEBATE

France, Hungary, the Netherlands and Italy. Preliminary results are indisputably positive and it is expected that at least France and the Netherlands will give vaccination the go-ahead during the first quarter of 2023. A similar announcement from the EU Parliament is also on the cards. Says poultry veterinarian Dr Scott Elliot, "Once this happens, South Africa's industry will be in a position to make a case to our government based on the European results and processes."

Ironically, the protocols being tested in Europe have already been formulated in South Africa by Elliott and his colleagues. The fact that European producers have always been compensated for culling losses left little motivation to seek alternative solutions. South Africa's different reality inspired innovative thinking, which resulted in the development of a protocol that involves day-old chicks being given a split-virus-particle vaccination, followed by one or more oil boosters later on.

Trials have shown that this strategy induces good long-term immunity, and that sub-clinical transmission is not the issue it has long been believed to be. Birds that do get infected may shed the virus



Dr Scott Elliot and his colleagues developed HPAI treatment protocols which Europe is only now testing

The case for vaccination

- Vaccinated birds will be less likely to fall ill and to die from HPAI-related challenges. They will also shed less virus than unvaccinated birds. The cumulative effect of this is that the virus will spread more slowly between flocks, making the risk of run-away infections much lower than in flocks that are unvaccinated.
- Vaccination is a fairer approach than culling in that all farmers will have the option to vaccinate, and losses will be much reduced in vaccinated flocks. In Mexico, where AI vaccination is an established practice, mortality has been reduced from as high as 95% during an outbreak to between 2% and 4%.
- Based on the Mexican experience, vaccination has the potential to positively change behaviour. In that country, farmers now report disease outbreaks to the authorities immediately, the ability to diagnose HPAI accurately has improved dramatically compared to 10 years ago, and local contingency funds have been created by poultry producer groups.

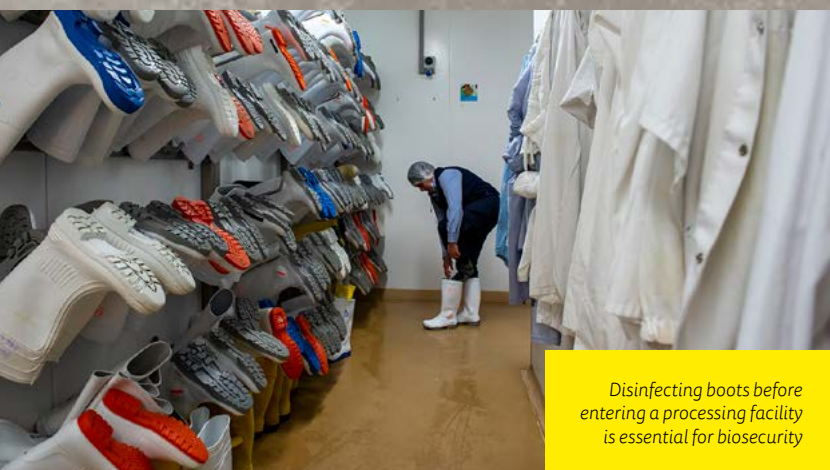
The case against vaccination

- The great concern about vaccination is that when vaccinated birds become infected, they may not show clinical signs of disease. This could allow outbreaks to occur and spread without timeous detection, which also increases the risk of virus mutations taking place. According to current WOAHP guidelines, tests should be performed in all vaccinated flocks to ensure the absence of virus circulation. This is a complex and costly requirement to meet.
- It can be difficult to distinguish immune responses to vaccination from immune responses caused by the disease. Known as DIVA (differentiating infected from vaccinated animals), this phenomenon can make diagnosis tricky. DIVA determinations are, however, increasingly simpler and more reliable than in the past due to developments in vaccine technology and diagnostics.
- Current vaccines only protect against previously identified HPAI strains and do not guarantee protection against new mutations. It is an issue that can be resolved if governments provide a mechanism that allows vaccines to be updated periodically. This would include the assessment of mainly oil vaccines at least every two to three years for efficacy against the main field viruses circulating in a country or region.
- The current ban on having vaccinated birds in general circulation will severely impact South Africa's cull trade as producers would not be allowed to sell spent hens as live birds.

THE BIG HEALTH ISSUE



Dr Mpho Maja, director animal health with DALRRD, believes in a multipronged approach to disease control



Disinfecting boots before entering a processing facility is essential for biosecurity

DID YOU KNOW?

- Human infections with avian influenza are rare, but possible, mainly through direct contact with sick birds. During the current pandemic in Europe, three farm workers became infected with the H5N1 strain. None showed any symptoms and the infection cleared quickly. World Health Organisation statistics show that over the past 20 years, a total of 868 H5N1 human cases were recorded in 21 countries. These infections resulted in 456 deaths.
- Bird flu is so infectious that scientists say one bird can infect up to 100 other birds.
- One teaspoon of HPAI-contaminated faeces is enough to kill an entire house of chickens or turkeys.

Source: Professor Ian Brown, head of virology at the UK's Animal and Plant Health Agency (APHA)

for only a few days and, if they do, the shedding is so low that infection between houses does not occur.

Locally, SAPA has declared its support for vaccination, with the caveat that exports may only take place from unvaccinated and HPAI-negative compartments to facilitate trade between countries. South Africa also leads the application of the export-compartment concept that enables a two-pronged approach to vaccination, says Elliott. "We have hundreds of individual farms making up export compartments in South Africa. These compartments will enable the export of poultry products from one sector, while vaccination will help protect the majority of the layer population."

Notwithstanding growing international support for vaccination and South Africa's contribution to the establishment of viable strategies, the local industry could wait between two and five years before it becomes a reality here, given how long the product approval and registration process normally takes.

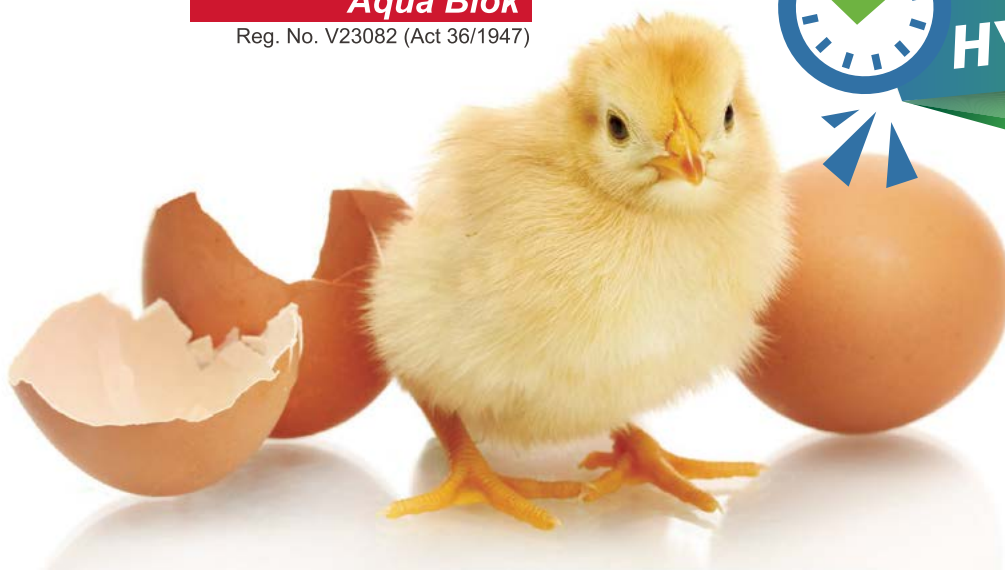
Dr Mpho Maja, director animal health with DALRRD, explains that a detailed vaccination protocol, including tracing and the controlled use of the vaccine, a surveillance protocol for vaccinated flocks and an eventual exit strategy must be in place before HPAI vaccination can commence in South Africa.

While the vaccination discussion continues, the fact remains that the right biosecurity measures, properly applied and adhered to, are highly effective in preventing HPAI. Says Maja, "The aim of these measures is to prevent contact between wild birds and poultry and to prevent workers and/or vets from mechanically introducing the AI virus and other pathogens to flocks by, for instance, stepping in infected bird droppings and then going into a chicken house without disinfecting their boots."

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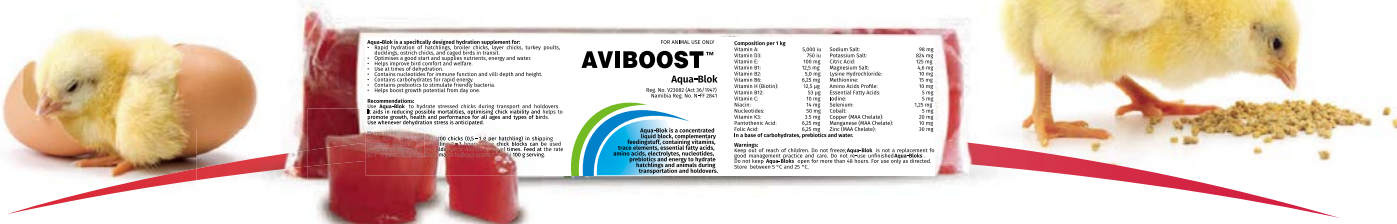
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References:

1. Jennifer R. Hess, MS; and Norman A. Greenberg. 2012 The Role of Nucleotides in the Immune and Gastrointestinal Systems: Potential Clinical Applications. *Nutrition in Clinical Practice* Volume 27 Number 2 April 2012 281-294
2. A. Gil 2002 Modulation of the immune response mediated by dietary nucleotides. *European Journal of Clinical Nutrition* (2002) 56, Suppl 3, S1-S4

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THE BIG HEALTH ISSUE



The symptoms of *Salmonella Gallinarum* include a swollen bronze-coloured liver with varying sizes of pale spots, an enlarged spleen, absorption of the ovaries, orange-coloured lungs and pinkish kidneys



BEYOND HPAI



HPAI is the current headline-grabbing disease, but it is by no means the only challenge to the health of poultry flocks.

According to Maja, the Animal Diseases Act also lists Newcastle disease, all avian influenza strains, *Salmonella Enteritidis*, *Salmonella Gallinarum* and *Salmonella Pullorum* as controlled poultry diseases. This means that outbreaks of these diseases have to be reported, and that farmers have a legal obligation to take all reasonable steps to prevent infection or spread of a controlled disease.

Currently, the *Salmonella* status of the national flock is a worry. Of particular concern is *Salmonella Gallinarum*, or fowl typhoid, a disease that poses no threat to human health but causes significant losses, especially among commercial egg-laying hens.

Another significant health issue is infectious bursal disease (IBD), also known as Gumboro disease. While it does not



WARNING!

POTENTIAL OUTBREAK

necessarily kill chickens, IBD damages their immune systems to the point where they become susceptible to secondary infections that can lower productivity and lead to bottom-line losses. Chickens infected with IBD may also not respond well to vaccinations against infectious bronchitis, coccidiosis and Marek's and Newcastle disease – with potentially disastrous consequences.

While many poultry diseases are increasingly more effectively controlled thanks to new vaccination technology, they are all still out there and cause problems periodically. A multipronged approach is the only safeguard. Maja highlights the importance, for instance, of buying day-old chicks only from reputable hatcheries that vaccinate their parent stock and chicks.

Farmers must also adhere to legal requirements, such as vaccinating their flocks against Newcastle disease. Importantly, farmers must immediately report any increase in birds falling ill or dying to their private veterinarian who, after determining the cause, will report to the state veterinarian. "Only through a combined effort by all parties can the

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THE BIG HEALTH ISSUE

potential impact of diseases on the poultry industry be limited," Maja says.

For Elliott, it all comes down to day-to-day attention to detail and consistently getting the basics right. "Management is the key to controlling any disease," he says. "Wild bird faeces don't get into a chicken house by itself; it gets in there because people aren't fastidious about changing out of dirty boots and into clean boots, or because they trust their clean boots so much that they don't keep the foot bath up to standard. I find that when our clients go back to basics, most problems are gone after six months."

Flock health is a challenge that can only be successfully managed with an integrated approach, from the way a backyard farmer manages his flock to how industry and government collaborate to put an HPAI vaccination strategy into practice. 

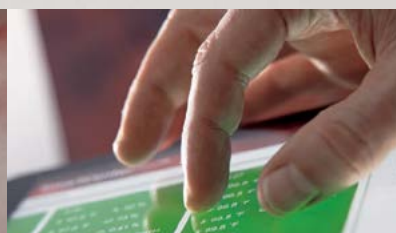
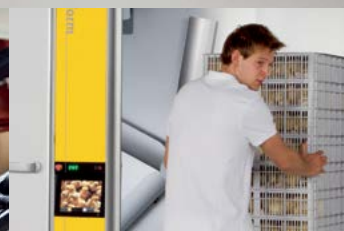


A farmer prepares to vaccinate chickens against Newcastle and Gumboro disease

SALMONELLA FAST FACTS

- Salmonella is a bacterium that can cause acute septicaemic disease in chickens, as well as illness and, in rare instances, death in humans.
- It is estimated that between 12% and 30% of all chickens in the world are contaminated with Salmonella. Morbidity, or the number of chickens that will get sick, varies between 10% and 80%, while mortality, or the number of chickens that will die, varies between 5% and 50% depending on the types of bacteria and the condition of and stress levels in the flock.
- Chicks that hatch from eggs laid by infected hens may not survive longer than a few weeks, depending on the Salmonella involved.
- Chickens carry Salmonella in their intestines and in the follicles of their feathers
- Once infected, unvaccinated birds remain carriers and shed the bacteria everywhere they go without necessarily showing any visible symptoms of the disease. In these cases, you need to have samples tested in a laboratory to find out if your chickens are carriers.
- Some Salmonella strains are resistant to antibiotics; prevention and vaccination are always better than cure.
- Chicks (and adult birds) can also get Salmonella from contaminated soil, bedding, nest boxes, feed or water, or through contact with insects, humans, equipment and other animals or birds.
- Salmonella is highly infectious. You can transfer the bacteria simply by cuddling an infected chick and then touching another bird without washing your hands. Biosecurity measures are therefore extremely important in the prevention of Salmonella.





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Top achievers honoured by Arbor Acres

Broiler and breeder producers took the spotlight to receive awards for exceptional productivity

Celebrating its top producers is a highlight on the calendar for Aviagen distributor Arbor Acres, which recognises its high-achieving customers in two categories every year.

All producers who submitted data during the period November 2021 to October 2022 were automatically entered into the awards programme, and this year a total of 69 awards were handed out.

Broiler producers are admitted to the 400 Club when they reach a European performance efficiency factor (EPEF) of 400 or more – this measures technical results via feed conversion rate, mortality and daily gain.

Its counterpart for broiler breeder producers is called the 140 Club, and to qualify a breeder has to reach a production factor of 140 chicks per hen housed until 60 weeks of production.

According to GM Arno van der Nat most of their clients surpass these standards comfortably. "The average of our breeder clients, for instance, stands at 155 chicks per hen housed! We were particularly proud of Caledon, which exceeded even that with 168 chicks per hen housed at 60 weeks."

Van der Nat said that he was heartened to see such exceptional results in a very challenging year. "Our producers are dealing with extreme feed prices, shortages in equipment, loadshedding and lower demand from consumers, and yet performance keeps improving. The results show that the breed is doing particularly well, and that there is still a lot of potential to develop and improve it further. Congratulations to all the winners!" 📸



CALEDON HATCHERY: 140 CLUB BREEDER AWARDS

- 1.** Charles Matamba: top flock – 168 chicks per hen housed (HH) **2.** Heiko van Jaarsveld: top flock – 168 chicks/HH **3.** Promise Machepi: top flock – 160 chicks/HH **4.** Rory Pringle: top flock – 168 chicks/HH



LUFAFA: 140 CLUB BREEDER AWARD

- 1.** James Stewart: top flock – 161 chicks/HH



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SUPREME: 140 CLUB BREEDER AWARDS

1. Arbor Acres GM Arno van der Nat with winners Ruan Germishuizen (top flock – 158 chicks/HH) and George de Kock, agricultural director (top flock – 160 chicks/HH) **2.** Gustav Aspeling: top flock – 157 chicks/HH, Hein van Wyk: top flock – 146 chicks/HH and Jonathan Watson: top flock – 157 chicks/HH **3.** Kenneth Chuene: top flock – 148 chicks/HH



CHUBBY CHICK: 140 CLUB BREEDER AWARDS

1. Cooper Emms: top flock – 156 chicks/HH **2.** Joe van Dyk: top flock – 162 chicks/HH **3.** Derick Burgers: top flock – 162 chicks/HH



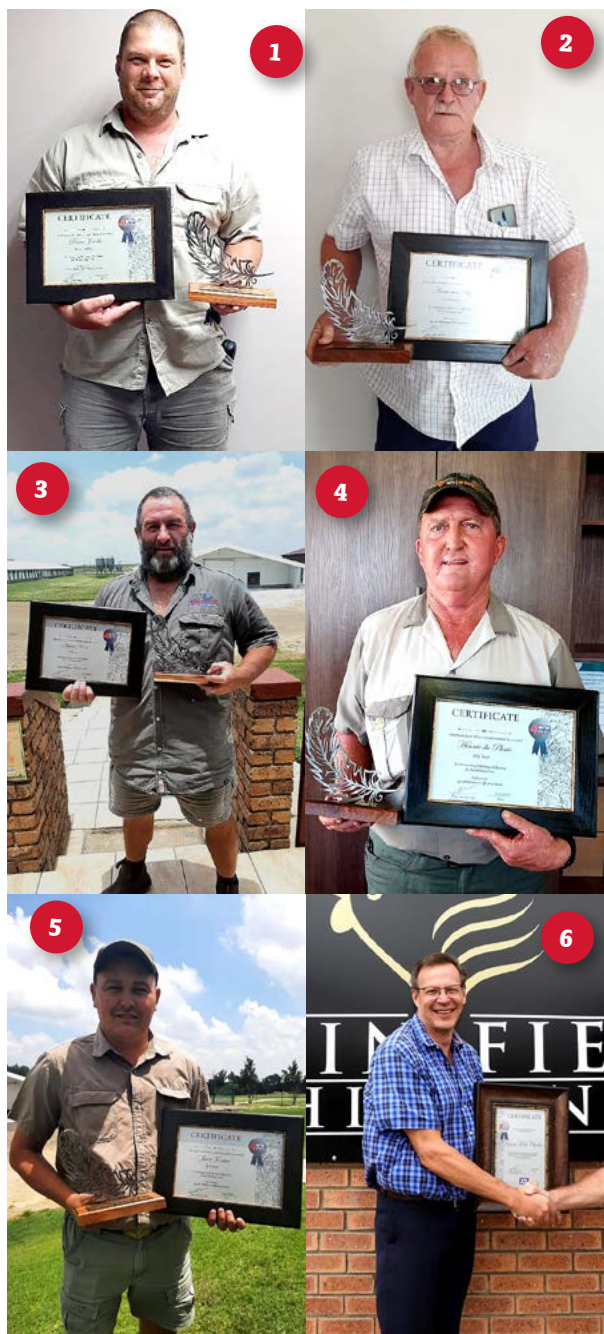
RAINBOW: 140 CLUB BREEDER AWARDS

1. Lindani Hlongwa (with certificate) and his team Mbusi Dlamini and Alan Reddy with Arno van der Nat: top flock – 156 chicks/HH with Arbor Acres GM Arno van der Nat **2.** Rainbow management team Mbusi Dlamini, Alan Reddy, Nony Hlongwa and Alpheus Chuene



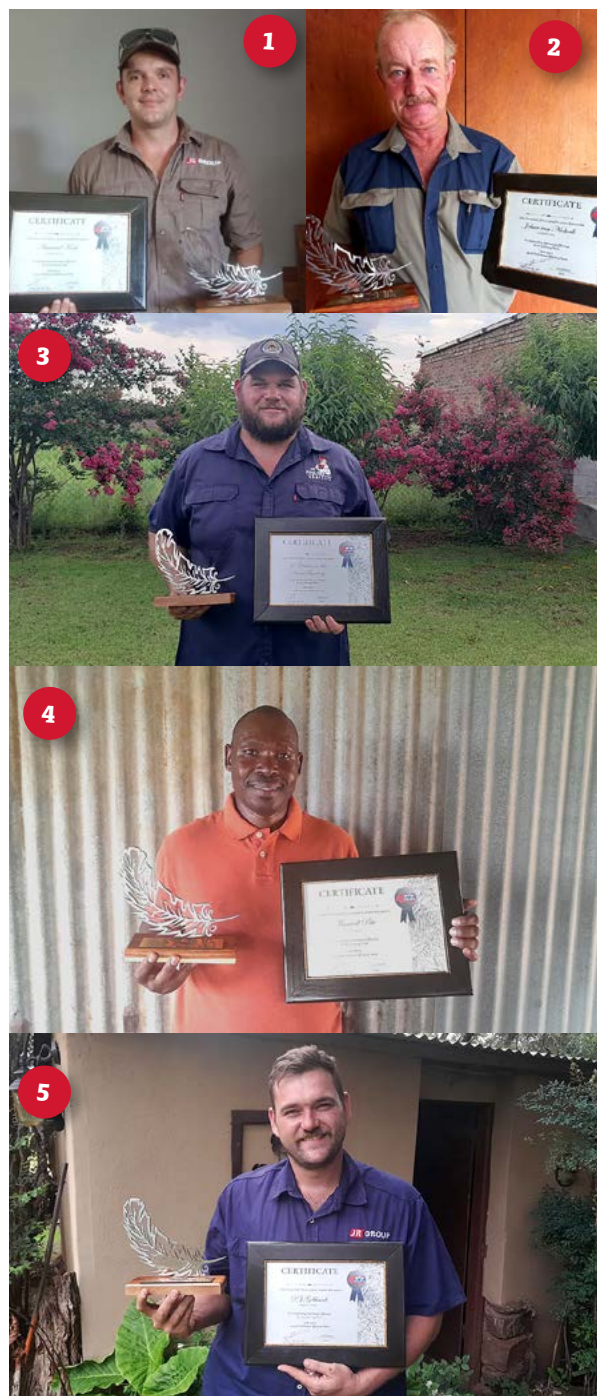
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GRAIN FIELD CHICKEN: 400 CLUB BROILER AWARDS

1. Danie Jacobs: top flock – EPEF 406 **2.** Arrie van Wyk: top flock – EPEF 465 **3.** Andre Koen: top flock – EPEF 404 **4.** Hennie du Plessis: top flock – EPEF 412 **5.** Jurie Jonker: top flock EPEF 414 **6.** Theo van Strijp, executive director of Grain Field Chicken: top flock – EPEF 465



JR POULTRY: 400 CLUB BROILER AWARDS

1. Armand Korf: top flock – EPEF 402 **2.** Johan van Niekerk: top flock – EPEF 411 **3.** Jan Hendrik Horn: top flock – EPEF 420 **4.** Maxwell Pete: top flock – EPEF 402 **5.** PJ Gebhardt: top flock – EPEF 410



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CHUBBY CHICK: 400 CLUB BROILER AWARDS

- | | |
|---|--|
| 1. Berrie Swanepoel: top flock – EPEF 429 | 4. Hardus du Toit: top flock – EPEF 471 |
| 2. Boeta Burgers: top flock – EPEF 422 | 5. Ivan van der Westhuizen: top flock – EPEF 437 |
| 3. Gerrit Burgers: top flock – EPEF 430 | 6. Terrence Taylor: top flock – EPEF 471 |



SUPREME: 400 CLUB BROILER AWARDS

- | | |
|---|---|
| 1. Coenraad Steenkamp: top flock – EPEF 411 | 5. Jacobus Steenkamp: top flock – EPEF 423 |
| 2. Danie Delpont: top flock – EPEF 428 | 6. Johan Maartin Pelser: top flock – EPEF 401 |
| 3. David James: top flock – EPEF 422 | 7. Pieter Du Plessis: top flock – EPEF 452 |
| 4. Jaco Swart: top flock – EPEF 405 | |



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A keen eye on HPAI

Professor Celia Abolnik was only 36 when she was appointed as one of the youngest researchers ever to lead a South African research unit, and she has been training her keen eye on solving the avian flu puzzle

By **Charmain Lines**

Nothing in Celia Abolnik's childhood in the suburbs of Pretoria hinted at a future as a poultry-health expert. "There was not a chicken in sight," she quips. Yet today Abolnik heads the Poultry Research Chair at the University of Pretoria, and is recognised as one of South Africa's leading authorities on highly pathogenic avian influenza (HPAI). She is the only nonveterinarian member of the South African Veterinary Association's Poultry Group.

How did it happen that you ended up researching poultry health?

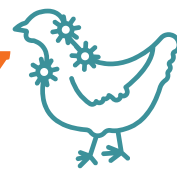
I'm a molecular and microbiologist by training, with a special interest in viruses and genomics. I love animals and when I had to decide on a field of study, microbiology seemed interesting and I thought I could largely avoid the animal experimentation that a major in biochemistry or genetics would require. This was naïve, as clinical research forms a significant part of my work today. I know experimentation is necessary, but it still saddens me.

I completed my PhD on avian influenza and Newcastle disease while working full time as a research scientist at the ARC-Onderstepoort Veterinary Research campus. When the Poultry Research Chair at the University of Pretoria's Faculty of Veterinary Science was launched in 2012 I applied for the position.



Prof Celia Abolnik believes plant-based vaccines have huge potential to control animal diseases

Photographs: Alet Pretorius



What does the work entail?

My job is to generate new scientific knowledge on avian diseases and how to combat them. I design and conduct research projects that answer a specific scientific question, such as, how long does it take the AI virus to mutate from the low-pathogenic to the highly pathogenic form in chickens, and how does this occur at the molecular level in the virus?

Right now, among other things, I'm working on tracing the source and untangling the spread of the 2021/2022 H5N1 HPAI outbreaks in South Africa and developing a range of plant-based virus-like particle vaccines against poultry and pigeon diseases.

Unfortunately, a large part of my time is spent on the less interesting admin of obtaining all the regulatory approvals to conduct veterinary research and writing grant funding applications. But fortunately, the science itself is fun!

What sparked your interest in avian flu specifically?

In 2001 there was an H6N2 outbreak in KZN in chickens and when I discovered that commercial ostriches were the likely source, and that wild birds were the source of the ostrich viruses, I was intrigued to learn more. Also, as H5N1 was making news in Asia at the time, AI was a highly topical field of research that was easy to get funding for.

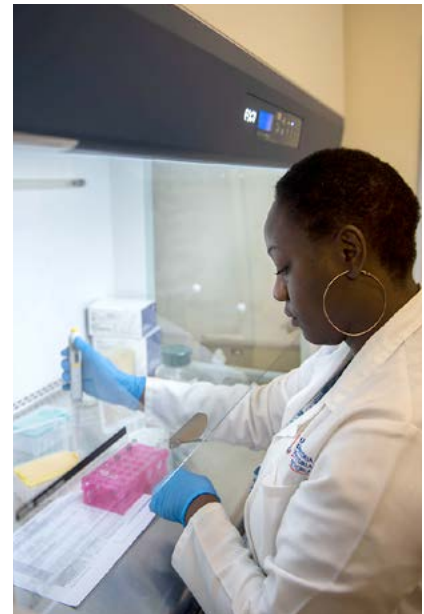
From a virology perspective AI is interesting because it can be transported over long distances by wild birds, and because not all species are equally affected by it. The AI virus is constantly evolving and gaining new and interesting characteristics to outfox the host's immune system and perpetuate itself.

Abolnik and her team are researching the spread of the latest HPAI outbreaks in South Africa




How does your work contribute to better managing HPAI?

Firstly, I do a lot of work on updating and improving diagnostic test methods that are critical to accurately and rapidly diagnosing and identifying these viruses. Secondly, our work on the molecular epidemiology of the viruses enables us to understand where the viruses originate from and how they are spread locally, which informs risk assessments. Thirdly, I contribute to the development



of vaccines that are not only safe and highly effective but also locally produced in case the government decides to follow this route in future.

What is your proudest achievement so far, and what remains a career ambition for you?

I'm most proud of each and every MSc or PhD student of mine who graduates. Career-wise, beyond academia, perhaps making plant-based vaccines awaits me... 

SAPA'S COMMITMENT TO RESEARCH

The specialised research facilities of the Poultry Research Chair at the University of Pretoria were commissioned by the then Department of Agriculture Forestry and Fisheries and sponsored by SAPA. This important and valuable asset is one of only two of its kind suitable for poultry research on the subcontinent and unique in that it was designed to accommodate larger birds, including ostriches. It is one of few facilities in South Africa where DALRRD allows work with HPAI to be conducted.

AROUND THE TABLE WITH SADC POULTRY

Across Southern Africa, poultry industries big and small play their role in the economies of their respective countries. Can a case be made for more collaboration in the region? **Melinda Shaw** investigates

South Africa's poultry farmers

have survived a tumultuous few years, between highly pathogenic avian influenza, rocketing feed prices, floods, droughts, broken municipalities and loadshedding. But despite the challenges, the South African poultry industry is a shining light in the region, and is seen by our neighbours in the Southern African Development Community (SADC) as the bulwark between Southern Africa and the often predatory export industries of the world's biggest poultry-producing countries.

The South African Poultry Association (SAPA) is the largest such organisation in SADC, and as such plays an invaluable big-brother role for the smaller countries and industries, says Ross Mackie, the chairman of the SADC Poultry Forum, and also director of Africa Chicks, a hatchery based in Ngwenya in northern Eswatini.

SAPA is actively involved in the SADC Poultry Forum as part of the secretariat. "We rely on SAPA and the South African industry for a number

of inputs, both practical and strategic. When dumped chicken from Brazil or the US heads for Africa, it affects not only the country where the ships dock. The region has porous borders and fallible regulatory systems, so round-tripping and smuggling happens far too often," says Mackie.

"Dumped chicken arrives in a South African or Namibian port and finds its way through illicit means into neighbouring countries, where it wreaks havoc for domestic producers, steals market share and often causes the demise of small-scale operators."

Mackie explains that SAPA, as the strongest member in the forum, tends to be the driving force behind antidumping campaigns without which the region as a whole would suffer.

The SADC Poultry Forum traditionally meets annually at the AVI Africa poultry congress, which is hosted by SAPA in South Africa, although the global pandemic had caused a three-year interruption. AVI Africa is back this year and the Poultry Forum meeting will be on the agenda,

confirms SAPA Broiler Organisation GM Izaak Breitenbach.

"These meetings give us the opportunity to discuss the issues that affect us all, such as round-tripping where imports intended for a neighbouring country ends up staying in the country of arrival," says Breitenbach. "We compare notes regarding transgressors and flag repeat offenders, so that we can plan strategies to deal with this to everyone's benefit." The conversation extends beyond the meetings, he says, with the ongoing sharing of information one of the biggest benefits of the Poultry Forum.

"When it comes to illegal imports and roundtripping, the other member states will alert us when they pick up instances at their borders," says Breitenbach. "Our colleagues in Eswatini, for instance, flagged irregularities at Komatipoort; we were then able to alert SARS, and this resulted in a thorough investigation of the border facilities at Komatipoort, which SARS has just concluded."

AFRICAN PERSPECTIVE



Ross Breeders Zambia exports chicks to other SADC countries and beyond



DID YOU KNOW?

The Treaty of the Southern African Development Community (SADC Treaty) was signed in Windhoek, Namibia, on 17 August 1992 and was incorporated into the Customs and Excise Act of 1964.

The signatories were the 16 member states, namely Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe.

CROSS-BORDER IMPORTS

Many smaller SADC countries also import raw materials from South Africa, ranging from maize and fertilised eggs to medicines and skilled labour. In some cases cross-border agreements are in place to allow for South African companies to supply specific poultry products into another country – a highly controlled process because the World Trade Organisation affords countries with infant industries the protection of 100% bans on imports, to allow domestic industry to gain a foothold.

One such example is Country Bird Holdings, which has a footprint across the SADC region, varying from local partnerships to supply agreements. Its biggest success story is the Zambian subsidiary Ross Breeders Zambia, which produces parent stock as well as broiler chicks that are exported to Botswana, Namibia, Eswatini and Mozambique, in addition to several other countries



One of the depots of the CBH subsidiary Ross Breeders Zambia

in the region. “It is a fully integrated company with feed mills, breeding farms, hatcheries, broiler production and an abattoir, which supplies fresh and frozen chicken into retail and the QSR market,” explains CBH CEO Brendon de Boer. CBH has invested in QSR franchisee stores in Zambia and Zimbabwe and recently opened six additional outlets, bringing the total to 17 QSR stores across the two territories. “As the middle class grows, so does the demand

for good affordable protein, and for convenience, which is why the QSR market is working so well for us.”

Having local partners on the ground is the secret to achieving success in a foreign territory, and crucially, working with local customs instead of against them. Says De Boer, “Our success lies in the ability to embrace the local communities and culture, rather than trying to impose a South African culture.”

The growth in demand for chicken



A broiler house at Moleps Poultry. Its market is Botswana's urban population of about 1 million people

A SNAPSHOT OF BOTSWANA

When Botswana Poultry Association spokesman Dave Gilbert settled in Botswana in the mid-90s the country's poultry industry barely existed, with a collective output of less than 100 000 birds a month.

In this vast and sparsely populated country there are very few tar roads even today, so travelling is slow for any traffic, not to mention for a refrigerator truck transporting frozen product. Botswana is beef country, and chicken, says Gilbert, was looked on as “poor man's agriculture”.

In the 30 years hence, the industry has grown to produce around 3.2 million broilers a month via a combination of commercial producers such as Gilbert's own Moleps Poultry and multiple small-scale producers. The industry offers direct employment to around 10 000 people and is considered a major contributor to the economy.

AFRICAN PERSPECTIVE

opens up more opportunities for cross-border collaborations within the region. Whereas South Africans currently consume around 40kg of chicken per capita per year, in most of SADC that figure is in single digits, with much development still possible.

Tanzania, for instance, only has per capita consumption of 1.5-1.8kg per year. The reasons are similar here than in many other SADC countries, says feed-industry consultant Heiko Köster who, in addition to consulting for SAPA also provides training and support for poultry farmers in Tanzania as part of a US Grains Council programme. "Chicken meat is very expensive, and costs the same as beef. Many Tanzanians do not have fridges, so most chicken is bought live, slaughtered and eaten quickly," he says. "Eggs are more popular as they don't require refrigeration so they remain the most affordable animal protein, although they're much more expensive than in South Africa."

The Tanzanian industry is small, but

growing. Its history of socialism left the country far behind its immediate neighbour Kenya, but it now has a robust democracy and is catching up fast. There is a Tanzanian Poultry Association, and the country has grown production from 120 tons of chicken per year eight years ago to around 450t/year today, says Köster.

He explains that industry growth was suppressed for many years by a lack of access to day-old chicks and very expensive feed, but Aviagen has provided a solution for the former, establishing the first grandparent farm. A number of parent-stock farms have been established and the number of modern hatcheries has been increased. On the feed side, the establishment of more feed mills together with proper technical input on the latest feed technology and feed formulations have improved feed quality, and boosted the industry. As recently as nine years ago there were very few commercial producers, and mainly backyard



Heiko Köster with Mary Claude Ngalaba of US Grains Council, trainee supervisor Calvin Ndossi and Greyson Kahise, farm manager of Mitoboto farm

operations, but this has changed, and now, says Köster, the main focus is on intensive training and gaining knowledge, and more investments into the total poultry chain.

"There are farmers who travel to South Africa to spend time on commercial farms and at training facilities such as KwaZulu-Natal Poultry Institute (KZNPI), gaining first-hand experience of production methods and business practices," he

Botswana's government has created an enabling environment for small farmers, by giving them preference in rural and outlying areas to supply chicken and eggs to government-run facilities such as schools and hospitals. This policy stimulates employment and the local economies.

The market for commercially produced poultry products is small compared to South Africa, because only about a million out of the population of 2.5 million people are urbanised, and those are the customers for the poultry industry. "It is less than a quarter of the population of Soweto, and at the same time logistics of getting product around the country is very costly," explains Gilbert.

The industry conforms to much the same standards as that in South Africa, and supplies a QSR and retail market that is also very similar, with the same brands: KFC, Nando's, Spar, Shoprite, and so on.

As in the rest of SADC imports are banned, but a government incentive allows small-scale producers to import feed and day-old chicks, which are generally sourced

from South Africa or Zambia.

Larger producers can bring in 30% of the volumes they purchase in Botswana from elsewhere, as long as it meets the standards, which are rigorously tested at the border. "Because of the beef industry we don't use growth promoters, so that means we are limited in the feed we can import from South Africa," Gilbert explains.

He is pragmatic about the import bans. "I understand free trade but protecting the industry has helped Botswana's economy, and our employment figures. That's why we support SAPA and its fight for tariffs to protect South Africa's industry. Rainbow could produce enough chicken on one afternoon at its Rustenburg plant to supply everything Botswana needed, and ship it up here and that would be the end of the industry in Botswana. But to what end? We've seen it happen in Malawi and in Mozambique where they indiscriminately allow chicken imports in and it killed the local industry completely. We don't want to be in that position."

AVIAN FLU

explains. He mentions layer farmers who experienced an epiphany when exposed to the cage system on a visit to South African farms, where they saw in person how it allows control and scaling up, as opposed to the deep litter which Tanzanian layer farmers traditionally use. One such farmer is Godwin Mrewa, who used to have 3 000 layers on his farm outside Dar es Salaam. After spending a week on a South African layer farm, he changed his methodologies and eight years later he has 300 000 layers and is building his own feed mill.



Godwin Mrewa's farm near Dar es Salaam, which he scaled up after learning new methods at a South African farm

Collaboration between poultry entities in SADC is not new, and the scourge of avian flu has historically played a role in getting players from different territories around a table. Rainbow MD Marthinus Stander recalls a conference in the early 2000s in Zimbabwe, where several SADC countries met to plan a common strategy for the region, when avian flu first became a big concern in Asian countries. This remains relevant today, as there are many shared wetlands, and flight paths of migratory birds crossing borders in both directions. As Stander says, "Birds don't use passports, they fly where they like."

For all of this, when it comes to cross-border trade, South Africa is like an island, says Stander. With the only established commercial industry in the region, the country is not allowed to export to its neighbours with their protected infant industries. Rainbow is another South African company that negotiates the strictly controlled quota system by which import permits are issued for companies in SADC countries when their own industries cannot provide certain products, such as specific portions required by fast-food chains. "We export chicken to KFC in Namibia, Botswana, Ghana and Gabon in this way," explains Stander.

Africa Chicks contributes to the 500 000 broilers per week that are produced in Eswatini



POULTRY IN ESWATINI

South Africa's landlocked neighbour adjoining Mozambique produces around 500 000 broilers per week, with around 60% of these in the commercial slaughter market and 40% in the live market where small-scale growers dominate. There are three main commercial growers.

According to Ross Mackie, MD of Ngwenya-based Africa Chicks, the country produces enough day-old chicks, broilers and table eggs to satisfy local demand, although until recently it was importing as much as 70% of its broiler fertilised eggs from South Africa. There is a current drive to develop and expand the broiler breeder farms that produce fertilised eggs.

Eswatini trails behind South Africa in per capita consumption of chicken meat at around 25kg per year.

As with all the smaller SADC countries Eswatini's poultry industry faces challenges with vast distances and costly transport, and largely rural communities with lack of refrigeration which limits the potential with fresh meat, in addition to the global issue of expensive feed and the threats presented by porous borders and dumped imports that compromise the market.



SADC Forum members at a meeting hosted in Botswana


AFRICAN PERSPECTIVE

Although opportunities for cross-border collaboration are there for the taking, Ross Mackie of the SADC Poultry Forum points out that there will always be major challenges to regional integration. These start with different sector goals, different and country-specific governance issues and specific country-related objectives and issues. "Regional integration would take all the member countries talking the same 'poultry language' at the same time for a common purpose or agenda. There would need to be a benefit for each country."

In an ideal world, a regional integration charter might be drafted to formalise goals and objectives, and while it might not be a reality at this point, SADC's poultry people agree on the principles that it might include.

Mutual respect for each other's sovereignty, a commitment to fight dumping together to allow sustainable domestic industries in all countries where it is feasible, import preference given to other SADC countries before looking beyond Africa, and technical

collaboration to spread poultry know-how and best practices.

It is an industry that has the power to promote food security on the continent, and combat hunger and the stunting of Africa's children. At AVI Africa this conversation is set to continue. 

Hungry Lion in Angola imports chicken portions from Rainbow in South Africa for its fast-food restaurants



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Henny Penny: the truth at last!

Words: Alyn Adams

Illustration: Jason Bronkhorst

We love chickens, but they're not the brightest bunch. Remember the storybook chicken who thought the sky was falling when an acorn landed on her head?

Prologue

The name Henny Penny has been linked to panic and gullibility ever since an acorn fell on the young hen's head, and she jumped to the conclusion that the sky was falling. Gathering her friends Cocky Locky, Goosey Loosey, Ducky Lucky, Drakey Lakey and Turkey Lurkey along the way, she rushed off to tell the king the news, but they were tricked by Foxy Loxy into a terrible end in his lair.

Or so the story goes – it would take many years for the full truth to be revealed. But finally, Mother Goose shares what really happened...

Many years later...

It was a rainy spring afternoon, and the residents of Mother Goose's Home for Retired Storybook Characters had been cooped up inside all day. A violent storm overnight had eventually subsided into a sulky drizzle.

Elderly storybook characters gathered in the gloom of the residents' lounge, where the magnificent bay windows revealed only grey skies and slippery flagstones. But the room was warm and cosy, and they passed the time playing board games.

Henny Penny rolled the dice and cackled triumphantly. "I accuse Foxy Loxy in the kitchen with the dagger!" she clucked.

Goosey Loosey rolled her eyes. "Not this again!" she hissed.

"You always accuse Foxy Loxy in the kitchen with the dagger!" gobbled Turkey Lurkey, from under the table.

"And he's not even in the game!" Goosey honked indignantly. "It's Colonel Mustard, Professor Plum,

Reverend Green, Mrs Peacock, Miss Scarlet or Mrs White – those are your only suspects!"

"I... I can't help it!" sobbed Henny. "It's... it's my PTSD!" She dissolved into feather-spitting wails.

"You've got PTSD?!" Lurkey snorted. "You weren't the one he was calling 'Turkey Jerky' while he trussed you up!"

"Exactly!" Goosey snapped. "Or 'Goosey Juicy'! You're such a drama queen, Henny; that's what got us all into that mess in the first place. We were all traumatised, you know! Why do you think poor Lurkey hides under the table all the time? Or Drakey has insomnia?"

"Hm?! What?" Drakey Wakey – aka Drakey Lakey, until he'd seen the light – had been staring blindly out the window. Now he started out of his reverie

and blew on his cocoa, which was three hours cold. "What about my insomnia?"

"I was just saying to Henny; she's not the only one who's got post-traumatic stress! I mean; we were all there, we all went through it together – and at least we survived! I mean, we're lucky compared to..." Goosey stopped – too late.

"Oops," murmured Turkey Lurkey, shuffling back under the tablecloth. "Here we go..."

Drakey Wakey's knuckles whitened.

"Lucky?" he rasped "Yes, I suppose we are! Not like Ducky Lucky – isn't that ironic? Ducky Not-So-Lucky – that's who the bird of my dreams



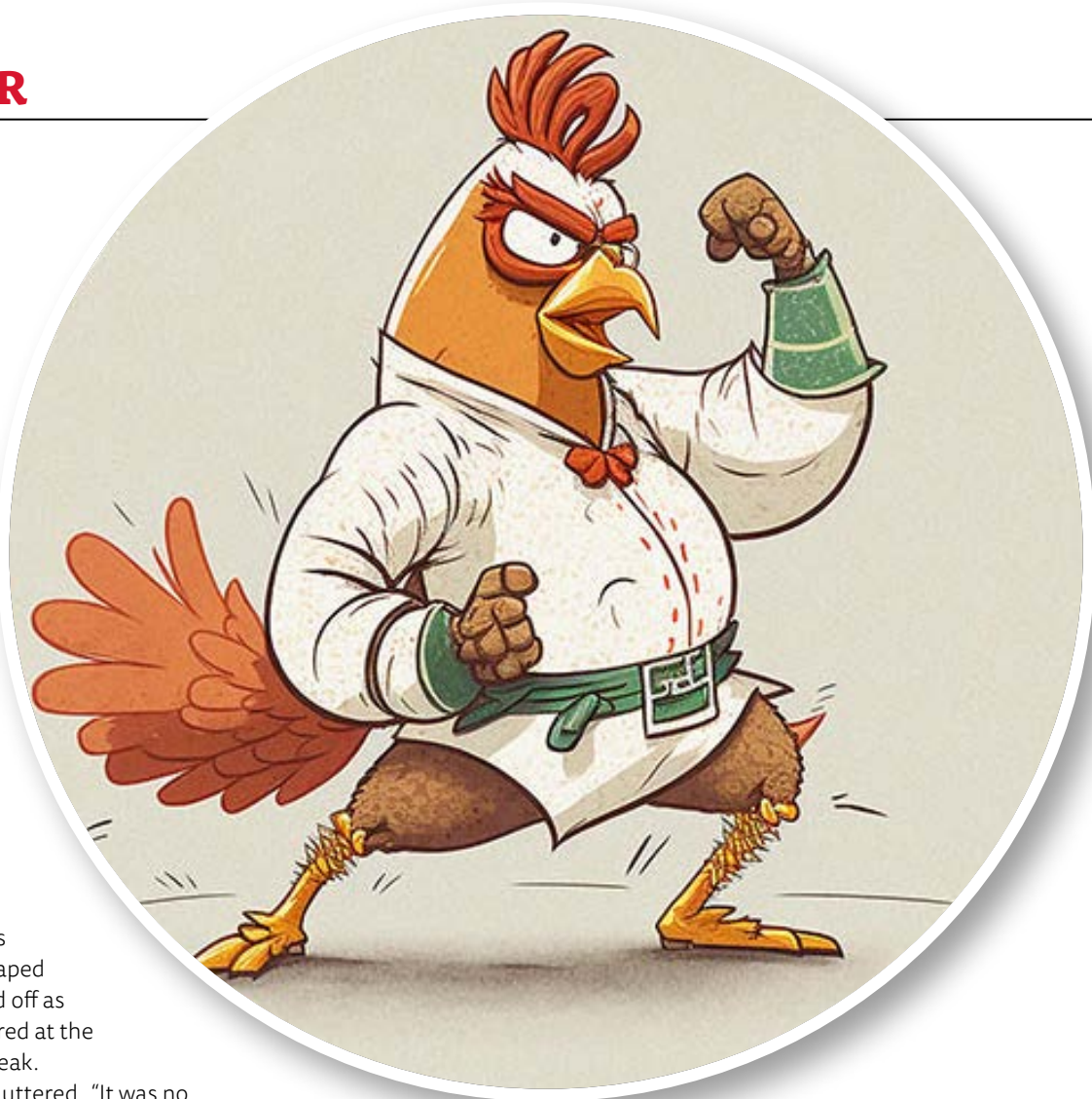
turned out to be!"

"No, I mean, it's terrible about her accident," Goosey blundered on, "but Ducky was Lucky when she was with us before, when we escaped from Fox..." She tailed off as flecks of foam appeared at the corners of Drakey's beak.

"Accident?!" he spluttered. "It was no clucking accident! How the quack does a duck survive an attack by the most successful flocking poultry serial killer in storybook history, and then clucking die on her honeymoon? Because 'an accident' sent us to different genres? An accident?! I get stuck in a Russian tragedy, our luggage goes to the travel reviews, and she ends up in the Jamie Oliver Christmas Cookbook? In an orange glaze with roasted fennel? That's no flocking accident – wake up, sheeple! There are sinister forces clucking with our lives!"

Fortunately, Drakey's rant was interrupted by the arrival of Cocky Locky, filling the room as usual with his ego.

"Hello howzit – no, don't get up, it's just me, Cocky Locky – like Rocky, but more jock-y. On a scale of men, from one to ten, all the ladies wanna give me one, can I get an ay-men?" He scooped up Henny and kissed her enthusiastically. "And how's my Henny Penny-Wenny then? Why you looking so sad, chickadee?"



"Oh, Cocky," Henny sniffed. "I was having a flashback to that awful day when Foxy Loxy tricked us..."

"Uh-uh!" Cocky silenced her with an index feather against her beak and shook his comb. "He might have walked in as Foxy Loxy, but they carried him out feet-first as Foxy Pox, remember?"

"Yes," said Henny in a small voice.

"And that was because...?"

"Because he died of chicken pox..."

"Exactly!" Cocky crowed, launching into his MMA routine of leaps and kicks. "Pock! A claw to the jaw! Pock! A beak to the cheek! Pock! A wing in the dingaling!"

"Oh, spare us the replay," Lurkey muttered through his snood, but Cocky was on a roll.

"Pock! A three-inch spur through the paw! Pock! A peck on the nose! Pock! Pock! Pock! That

fox got so many chicken pocks, he never knew what hit him!" Henny's tears forgotten, he strutted off happily to swap war stories with the Ninja Turtles.

Shaking her head, Goosey watched him go. "You know, Henny," she said at last, "That is one dumb rooster."

"I know," Henny sniffed.

"But he's useful in a crisis and he adores me. That's why I took the blame for that whole 'sky is falling' disaster in the first place – he was actually the one who got hit by the acorn and panicked, but it would've destroyed him if anyone found out..."

Goosey shook her head again.

"Well, ain't love grand?" 🐔

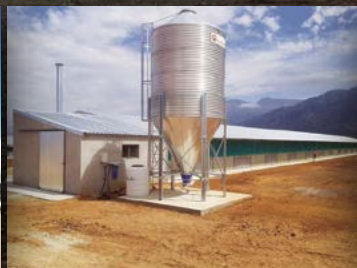


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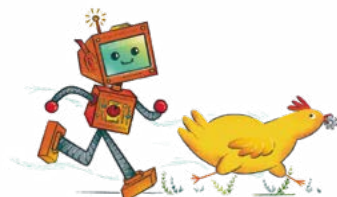
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Weigh up to scale up

Of the many mechanical solutions required for scaling up prepackaged food production operations, few tools match the economies of scale allowed by multihead weighing devices.

Multihead weighers (MHWs), which are used extensively in both food and non-food-sector packing lines, ensure quick and accurate weighing of value-added product for packaging. Rainbow's head of operations for value-add business, Liam Paterson, talks us through what he sees as an essential element in any such operation.

He explains that, while already in common use in the poultry sector, MHWs are essential for scaling up any enterprise that packages products for sale and represents an excellent example of the long-term value of an investment in technology to increase production capacity.

How MHWs work

Product is fed from a conveyor belt and evenly distributed into a series of weighing buckets. The weigher measures the weight of product in each individual bucket, calculates which combination of buckets contain the weight closest to the predetermined target weight of the packaged end product, then opens all the buckets of this combination, releasing the product into the distribution system for packaging.

In this way, the MHW meets the modern manufacturing environment's demand for greater precision and speed when packing products.

Weighing up demand and efficiency

Paterson describes MHWs as a game changer, especially in the food-production sector under pressure to meet the ever-increasing demand for reliable and efficient nutrition to feed a growing population. "The volumetric accuracy these machines allow offers a range of throughputs from 300kg per hour to 5 tons per hour or more, providing huge growth opportunity and increased cost-point efficiency for producers."

Solutions such as these are essential to keeping an operation

The science of poultry production is enabled by technological innovations such as the multihead weigher

By **Laura Tyrer**

simple and efficient, while driving volume. In addition to significantly speeding up and simplifying the weighing and packaging process, MHWs make the most of factory-floor space limitations, delivering in a limited footprint the sort of volumes that would be impossible for most producers to accommodate manually.

Paterson illustrates this by way of one of the MHWs under his care at Rainbow. The elevated system, which has an approximate footprint of 25sqm and a height of 2m, has a throughput of between one ton and 1.8 tons per hour, depending on the product.

The same system demonstrates the long-term value of including such technology in one's plant line. The MHW, manufactured by international producer Cabinplant in conjunction with local agent Albrecht Machinery,



Weighing chicken nuggets at a rate of more than a ton per hour

Multihead weighers are proven technology investments

Top cone: The product is fed to the top cone by a feeding system designed for the product's particular flow properties.

Vibratory chutes/screw feeders: They feed the product evenly into assembling pans.

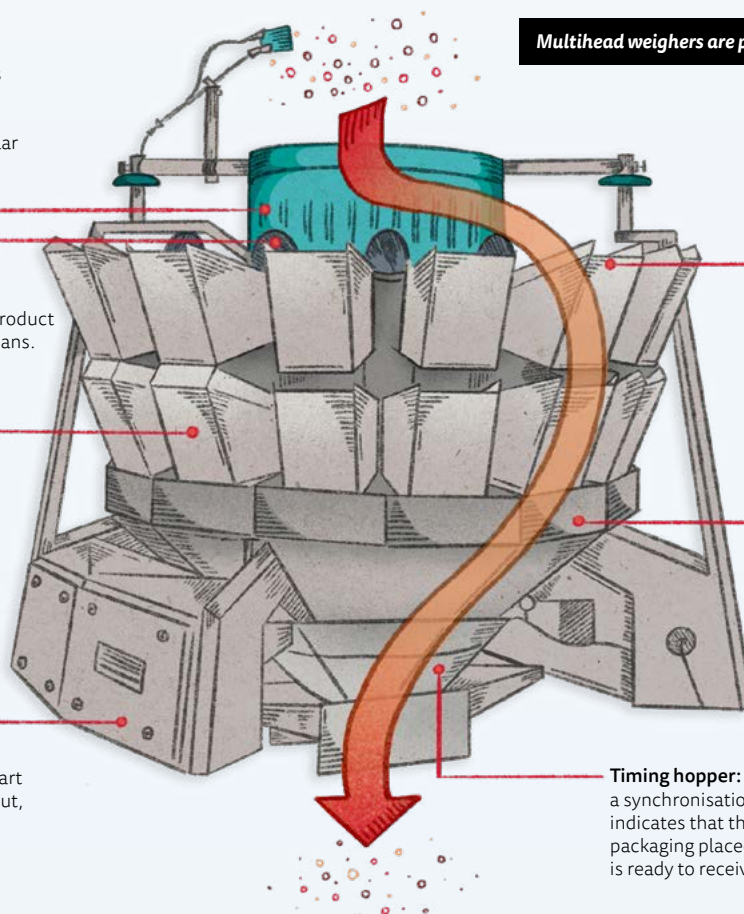
Weighing pans: The product is recorded as partial portions. The computer will empty the most suitable weighing pan for obtaining accurate portion weight.

Computer: State-of-the art technology for high output, flexibility and accuracy.

Assembling pans: From the assembling pans the product is discharged into the weighing pans.

Assembling hopper: Those partial portions which together come closest to the desired weight are dropped from the weighing pans and slide down through the assembling hopper to the timing hopper.

Timing hopper: This opens via a synchronisation signal, which indicates that the distribution tool or packaging placed below the weigher is ready to receive the product.



was installed in 2005. It has been delivering reliably and consistently ever since, with only minor mechanical upgrades required and a software update last year, says Paterson. "The investment has served us well."

Weighty investments

Paterson offers some guidance to producers who are looking to invest in this technology.

"MWHs are only as good as the accuracy of the material you send down the line. Since the initial product mass before value add needs to be as accurate as possible to ensure the efficiency of the MWH, it is essential that the manufacturer's processing

phases are equally accurate and efficient," he says. MWHs are also better suited to a limited product range.

That said, this readily available technology is highly adaptable in terms of scale and deliverability.


When designing a tailor-made solution for a producer the original equipment manufacturer (OEM) is informed by the client's precise requirements – including type of product, its dimensions, weight and density, units per minute and whether unit count or weight count is preferred. The end result is software-supported machinery for that producer's specific application.

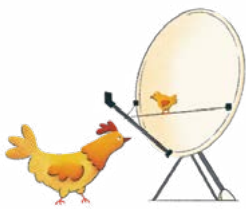
Paterson also highlights the importance of choosing technology that comes backed by good local

technical support and readily available mechanical spares to keep one's operation running.

"Most brands being equal, the key to building a relationship with any OEM is around after-sales service and their local intelligence in terms of support and service," he says.

While the internet makes it easy for OEMs to troubleshoot issues or undertake upgrades from anywhere in the world, having a local technician on hand to support the producer is always preferable.

Considered to be a cost-effective and proven technology investment, the multihead weigher represents a scalability leap into the future for any production facility. 



ON THE WIRES

Fancy fake food, the ravages of war and more global poultry-industry news

Compiled by **Charmain Lines**

Faux gras debuts on French menus



Shortages caused by bird flu has seen the rise of vegan foie gras

Over the past few months, at least one French fine-dining restaurant started offering its patrons a vegan alternative to foie gras, a delicacy traditionally made from fattened duck and goose livers.

Developed by chef Fabien Borgel, who manages a vegan restaurant in Paris called 42 Degrés, faux gras contains plant-based ingredients such as cashew nuts and sunflower and coconut oil. It reportedly looks like the traditional foie gras but has a creamier taste.

One of the main reasons for this culinary innovation is the ongoing HPAI outbreak in France that is ravaging the country's poultry population, ducks included. Foie gras production fell for the third consecutive year in 2022 and this, combined with rising input costs, has seen prices increase by around 20%. France is the biggest producer and consumer of foie gras. 📌



Russia crushes egg production in Ukraine

The biggest egg producer in Europe, also the 11th biggest in the world, has been brought to its knees by the war in Ukraine.

Usually operating with 13.3 million layer hens, egg producer Avangardco has lost more than 4 million hens and US\$330 million because of Russia's shelling of the village of Chornobaivka in the Kherson province of Ukraine.

Early in 2022, the farm was cut off from the power supply, which disrupted the operation of its feeding lines, egg collection and shipment facilities, as well as the shuttle service for farm workers. Some of the eggs and birds were given away to the local population, but a staggering 4.4 million birds eventually died from thirst and hunger.

"The death of such a large number of birds without sustainable disposal is an extraordinary event – a true environmental disaster," the company stated.

As a result, the Kherson province's prosecution authorities have instituted criminal proceedings against Russia under Article 441 of Ukraine's Criminal Code, which defines ecocide as the "mass destruction of flora and fauna, poisoning of air or water resources, and also any other actions that may cause an environmental disaster". 📌

Golda could be gold for the layer industry

The world's first gene-edited hens were hatched in 2021 and are now successfully producing eggs, having reached maturity.

Called "Golda", these parent hens likely hold the key to stop the culling of between six and seven billion male chicks across the world every year. In addition to animal-welfare concerns, the practice costs the layer industry more than US\$500 million per year in wasted eggs and the labour and energy needed to incubate and sex them.

The gene-editing technology was developed by animal-science

researcher Yuval Cinnamon from the Volcani Center Agricultural Research Organisation in Israel, in conjunction with the UK-based animal-welfare organisation Compassion in World Farming (CIWF).

Now licensed by Huminn Poultry, the process regulates the activation of the Z chromosome by an optogenetic system that shines a blue light through the eggshell in the incubator. This causes male eggs to stop developing in early embryogenesis, while having no effect on the genomes of female chicks.

In poultry and other birds, males

have two Z chromosomes, while females have a ZW chromosome.

Once commercialised, the Golda hens will be kept at poultry-breeding centres, while their offspring will be available to the layer industry for egg production. 📖



An apple a day works for chicks too

We don't know if an apple a day really keeps the doctor away, but a new study from Cornell University, located in the city of Ithaca in New York state in the US, suggests that injecting apple juice into eggs gives chicks a head start when it comes to gut health.

Chicks that received a single apple-juice injection had more beneficial bacteria in their intestines and showed signs of improved iron and amino-acid absorption after they hatched. Although more research is needed to verify the findings, the results indicate that apples and apple byproducts contain bioactive compounds that promote healthy gut development.

Injecting the apple juice into the amniotic fluid of the egg allows the research team to test its impact in isolation without having to control for interactions with other feed ingredients and conditions. This research could result in a cocktail injection that combines vaccine administration with nutrition additives. 📖

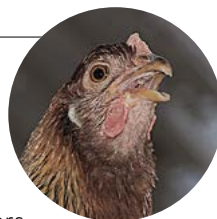


Some like it hot (most don't)

A review of research papers by different authors carried out at Njala University in Sierra Leone suggests that the poultry industry's response to climate change should include the development of heat-tolerant poultry breeds.

The study, which was led by Professor Abdul Rahman Sesay of the university's Department of Animal Science, examined how heat stress impacted the nutrition and physiology of native and commercial chicken breeds. It concluded that heat stress causes oxidative stress, acid-based imbalances and suppressed immunocompetence. These changes contribute to an increase in mortality and a reduction in feed efficiency, body weight, feed intake and egg production. Heat stress also has an impact on the quality of meat and eggs.

In an article that was published in the *International Journal of Environment and Climate Change*, Professor Sesay points out that rural poultry may tolerate heat better than commercial breeds, but that the extent of this tolerance requires further investigation. He concludes that it is necessary to develop new varieties of chicken, especially heat-tolerant breed lines, in response to climate change and the diverse needs of farmers and consumers. Such breeding projects should include the improvement of native breeds' climate resilience. 📖



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1. Elanco Study Hemicell HT Cost saving calculator 2021

2. Anderson DM, Hsiao HY, and Dale NM. 2008. Identification of an inflammatory compound for chicks in soybean meal-II. Poultry Science 2008; 87: 159. REF-01075

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CHICKEN MANURE: WHAT IS HEALTHY?

Chicken manure is a good source of fertiliser, but is also a useful indicator of flock health and can serve as an early warning sign of disease. Therefore it is important to know what healthy manure looks like.

Healthy manure

Chickens produce 10 to 15 digestive droppings each day. Healthy manure consists of three parts – urates, urine and faeces – and there is a separate caecal dropping.

Urine: As with any other animal's urine, chicken urine is clear and watery. Fresh manure contains around 76% water, and more urine and urates are produced than faeces each day. Occasionally, urine and urates can mix and form a cloudy liquid. If this mixture is the only excrement that is seen, it could indicate that a bird has stopped eating due to illness.

Urates: These are the crystalline component of urine and look like a chalky white coating on faeces that isn't watery, nor quite solid.

Faeces: This is the tubular-shaped section in the middle of chicken droppings that consists of digested matter. It may be coiled, straight or broken into smaller, cylindrical pieces. Manure consistency can range from firm to runny in high ambient temperatures when chickens' water consumption increases.

Depending on feed, healthy solid faeces can be varying shades of yellow-brown to green. Yellower faeces result from a diet high in grains, while free-range birds produce greener manure. Normal fresh faeces usually aren't very smelly, with the exception

of that from brooding hens due to the build-up of manure with lack of movement.



Figures 1-4: Healthy manure with typical white urate crystals coating the outside

Caecal droppings

The caecum is a set of two blind-ending tubes at the junction of the large and small intestines, which plays an important role in fermenting nutrients to produce short-chain fatty acids, a source of energy to the body. Caecal droppings are foul-smelling, range from mustard-yellow to caramel-brown and dark-brown and have a thick, wet consistency with no urates or digested matter. They consist of the normal evacuated contents of the caecum that occur once/twice daily.

Unhealthy manure

When chicken manure shows a sudden change in the colour, consistency or smell, it can indicate infection in the digestive tract. These are the signs:

Urine and urates: Green or yellow urine and urates indicate a liver problem. Red could be a sign of kidney disease, internal bleeding low in the digestive tract or lead poisoning. Increased urine can be caused by increased water consumption or a bacterial disease. Increased or watery white urates with no solids can be caused by dehydration or a kidney problem.

Faeces: Pea-green faeces indicate liver damage, while black or tar-like faeces could be caused by internal bleeding high in the digestive tract. Foamy, bubbly, pale-yellow faeces are caused by parasites. White or clay-coloured faeces show problems with the pancreas and digestive system. Blood or membranes in the faeces can be caused by coccidiosis or enteritis from a bacterial infection.

Lumpy faeces with undigested food is caused by incomplete digestion or stunting syndrome. Diarrhoea can be caused by a bacterial infection in the gut, viral infection in the kidneys, a sudden diet change, infection in the oviduct or a toxin in something the birds have eaten.

Since manure can show early signs of disease, keeping a close eye on the chickens' manure condition can lead to earlier diagnosis and quarantine which can prevent the spread of infection before the disease becomes too severe. Always consult a vet or poultry expert to pinpoint potential causes. 📧

Retha Engels (MSc. Agric. Animal Science) is a technical advisor at Meadow Feeds. For more information, contact her at Retha.Engels@meadownatal.co.za.

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Healthy diets for a healthy flock

Is there an alternative to commercial feeds?

Dr Foch-Henri de Witt gives advice



'I raise broilers to sell and also indigenous chickens for my family's use. What is the best feed strategy to keep them all healthy and productive when I can't afford to always buy the prescribed commercial feeds?' – Vincent, via Twitter

The reality of ever-increasing input costs had a significant negative impact on the profitability of small-scale poultry producers during the last two years. Not only is the bargaining power of smaller producers limited when it comes to feed and medicine purchases, they are also exposed to a weaker post-Covid economy, preventing them to increase their selling prices. While some South Africans are reducing their meat consumption to get by with their monthly salaries, others perform additional "side hustles" such as small-scale poultry production to supplement their income.

High feed prices sometimes force


producers to try alternative feeding strategies or homemade recipes that could either reduce production efficiency of birds or render the birds more susceptible to disease infection due to improper nutrient intake. It is challenging to convince farmers that feed cost per day (R/bird/day) which is linked with both feed price (R/kg) and feed intake (g/bird/day) should be considered when feed purchases are made instead of purchasing price alone.

An imbalanced protein (read amino acid) to energy ratio, or an incorrect dietary calcium level will not only negatively influence the daily feed intake of birds, but also the overall performance efficiency.

Asking "should you be keeping poultry if you cannot afford to provide proper feed to them" could provoke some hostility from individuals, but it is a relevant and important question. By combining consumer awareness of animal-welfare aspects with the unbalanced use of social media, producers run the risk of unneeded critique if their animals are not properly fed or in poor feather condition due to their homemade money-saving feed recipes.

I am of the opinion that bird numbers and available funding should drive the decision-making process when planning your monthly feed requirements. Small-scale producers should try to remain objective in determining their "wants" and "needs" in terms of bird numbers. Also, steer away from keeping too many chickens if you know you don't have the finances to maintain these birds.

While this is not necessarily the answer that small-scale producers would like to hear, the old saying of "sometimes it is cheaper to do nothing instead of doing the wrong thing" rings in my ears. Given the genetic potential of modern chickens, I think it is safe to suggest that a properly balanced diet will pay for itself – depending on the specific production environment and management skills of the producer.

Anyone who wants more practical info about poultry nutrition can visit these websites: www.afma.co.za or www.poultrysite.com. 

Dr Foch-Henri de Witt is a monogastric nutritionist who also consults to the poultry industry. He can be reached on foch.dewitt@clinvet.com.

Photograph: Neil Weideman



FARMERS' WISDOM

Former teacher and now egg farmer Suzanne Smit loves her flock of free-range layers and shares her tips for ensuring their health and safety. By **Melinda Shaw**

Keeping a free-range flock safe and healthy

Taking photos of her flock of Lohman Brown hens is a favourite pastime for egg farmer and shop owner Suzanne Smit, whose operation supplies free-range eggs to her own shop in Riebeek-Kasteel, as well as local restaurants.

"My children accuse me that I take more photos of the chickens than I do of them... and it's true! I love my girls," says Smit, who has been in the business of producing eggs for five years.

It all started when her farmer husband surprised her with a box containing a rescued hen and a handful of chicks in 2018. Smit was charmed, and when she had the opportunity to buy a few extra hens and a rooster, a small free-range operation was born. At first she was selling eggs from her car, but as word got out and demand increased she took the plunge and opened a shop.

Today she has 600 Lohman Brown layers that produce around 450 eggs per day. The birds roam free on the grass and in the lucerne fields on the farm where they forage for bugs and seeds, and are fed a diet free of routine antibiotics or growth stimulants.

"I will only give them a stress pack with multivitamins when they first arrive on the farm, and on very hot days. We collect eggs daily and deliver the same day or the next day, so they are as fresh as can be."

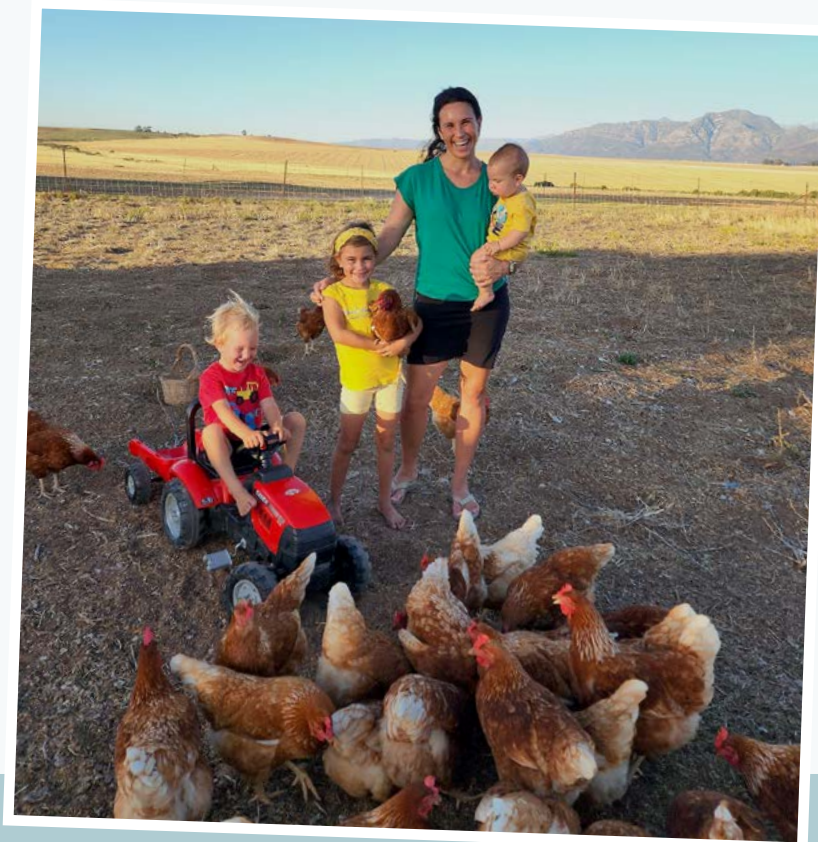
Free-range doesn't mean bio-security is not taken seriously, though. The birds are not fed out in the open – their feed is only supplied inside the coops, and when they are hungry they have to go inside to feed.

Smit and the single worker dedicated to handling the hen houses are the only people allowed inside, and disinfectant foot baths at the entrances are scrupulously maintained



The Country Chic
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to prevent any cross-contamination.

"We are aware of the avian-flu dangers associated with wild birds, but luckily, so far, we've never had a problem and I pray that it stays that way. We don't have an issue with wild birds mixing with the hens or coming into the coops. The coops are positioned under trees near the farm buildings, so there is a lot of general activity, and I think that also discourages wild birds from coming too close. And because we don't farm commercially, there is no access to outsiders on the property, and as a closed unit our risk for contamination is low."

Smit's eggs and a hand-picked range of other chicken products and farm-stall fare

sourced from farmers in the area are available at her shop, The Country

Chic, in the main street of Riebeeck-Kasteel. 📍



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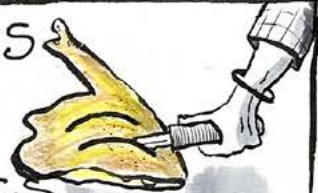
RED
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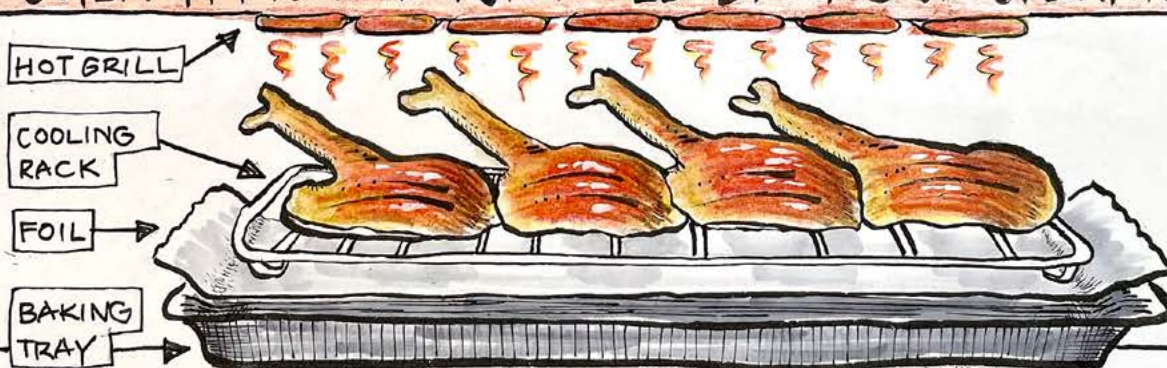
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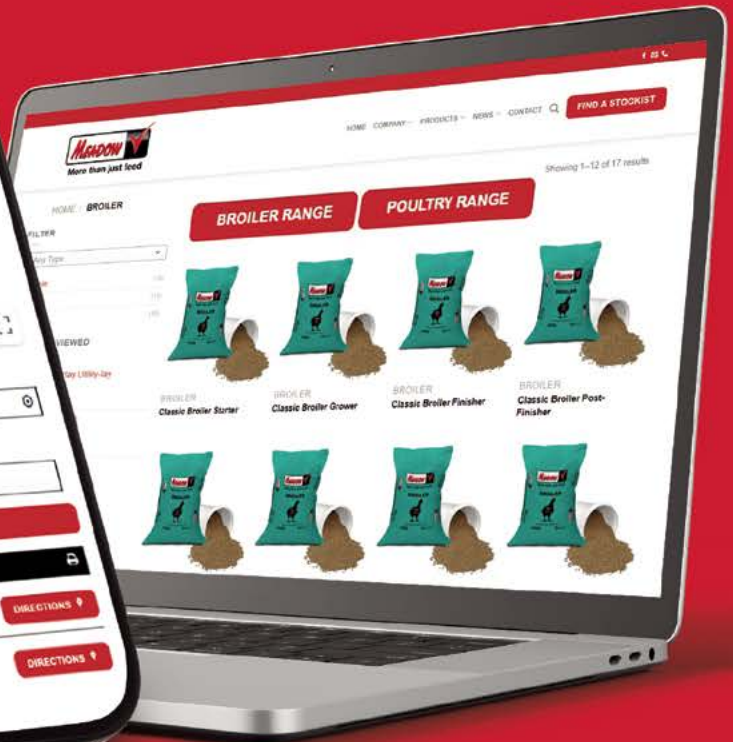
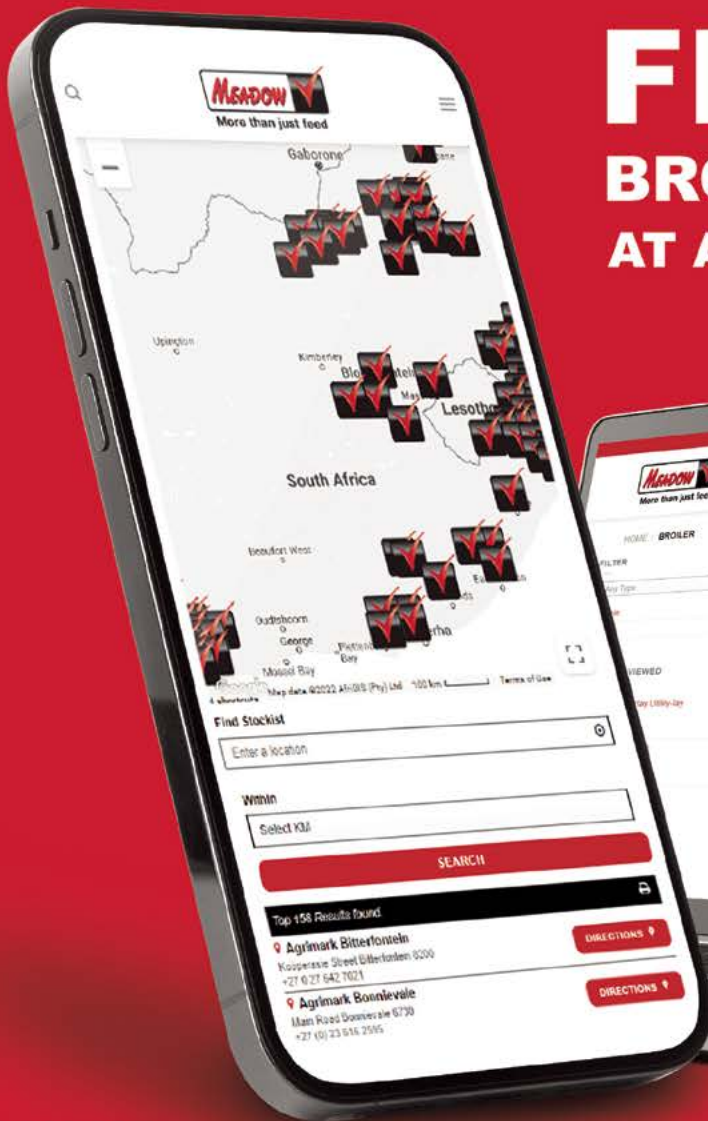
ARRANGE CHICKEN ON A COOLING RACK, PLACED ON A FOIL-TOPPED BAKING TRAY. SLIDE UNDER A HOT GRILL.

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