NATIONAL Poultry NEWSPAPER

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Australian Eggs shores up food security with EggTrace system

AUSTRALIAN Eggs recently announced the launch of EggTrace, a new tool designed to help egg farmers trace eggs back from the point of purchase to the date and location that the eggs were laid.

The development of EggTrace was part of a Commonwealth grant project to drive improved food safety and security across the agriculture sector.

By creating full visibility on the path an egg takes from lay to despatch, egg farmers now have the ability to more easily and efficiently identify any quality or health issues affecting eggs, ensuring a safer and more reliable egg supply chain.

In a recent survey of 5981 Australians, 66.5 percent of respondents indicated that they were concerned about Australia's food security.

Australian Eggs managing director Rowan McMonnies said improved traceability coverage will make the egg industry more resilient and improve Australia's food security.

"Australians consume about 17.3 million eggs a day, so if the quality or safety of our eggs is under threat, it would have major implications to our national food supply," Mr McMonnies said.

"EggTrace is a browser-based tool that works by providing farmers with the insights they need to isolate, neutralise and rectify any issue on-farm before it causes significant food supply issues, and is linked to the production type and best before date.

"As the global trend towards transparency and traceability in the food chain accelerates, traceability has become even more important in ensuring that we have the trust and confidence of Australians."

Australians care where their eggs come from, a fact reflected in the survey which showed most Australians – 69.1 percent – prefer to buy eggs from retailers that require eggs to be traceable back to the farm.

A significant majority – 86.8 percent – agree that traceability is important in ensuring food safety.

While most large egg producers have robust traceability systems in place, for some smaller producers previously there have been knowledge, technical or financial barriers in place, which has meant that traceability has not extended beyond the mandatory stamping of eggs.

"Australian Eggs is breaking down the remaining barriers to broader traceability coverage by putting resources in the hands of farmers to help them trace the movements of their eggs," Mr McMonnies said.

Josh's Rainbow Eggs chief executive officer Dr Tamsyn Murray said traceability is one of the most critical components of the business.

The producer – who supplies eggs to Woolworths and Coles supermarkets – said that Josh's Rainbow Eggs' traceability system helps them sleep at night.

"As egg producers, we are responsible for every egg we sell."

"Each egg must be the best possible egg – nutritious, tasty and safe.

"Our traceability system allows us to immediately rectify any issues with egg production and ensures that we are only providing the best eggs to our customers," Dr Murray said.

In addition to the new software tool, Australian Eggs has also developed a suite of resources for egg farmers, including a traceability manual, factsheets and more – available at australianeggs.org.au/for-farmers/traceability

Dr Tamysn Murray and son Josh of Josh's Rainbow Eggs.

With over 45 industry experts, the expo was an ideal opportunity for PHA to network.

New projects and agricultural careers expo

THIS month I have the pleasure of announcing funding for two fantastic projects, as a result of our open call for research.

The first project entitled 'Reducing abnormal behaviours through effective enrichment' will investigate how effective enrichment may be able to reduce abnormal behaviour in breeding roosters and hens.

The research team from Melbourne University and collaborators at South Australian Research and Development Institute have extensive experience in this area and their project aims to understand the challenges and limitations to providing specific enrichment for meat chicken breeders in Australian commercial conditions.

PoultryHub

by **TAMSYN CROWLEY**
Director

The second project is focussed on a novel approach to isolating antigen targets and developing an mRNA vaccine against salmonella enterica, and will be led by a team from Deakin University.

This project comes off the back of the successful delivery of mRNA vaccines for COVID-19 but will utilise a novel take on the generation of the vaccine.

I would like to take this opportunity to congratulate all of the researchers who submitted projects for our 2022 open call funding round, we truly appreciate the time and effort you have made and encourage you to keep engaging with Poultry Hub Australia.

I would also like to thank our industry committee, which has again done an outstanding job of reviewing the projects and interrogating the science.

On June 9, 2022, Poultry Hub attended the Tamworth and District Careers Advisor's Network Agricultural Careers Expo.

Over 1000 students attended from surrounding Tamworth schools, as well as schools from Coonabarabran, Inverell, Armidale, Glen Innes, Upper Hunter, the coast and as far north as Tenterfield – it was the perfect forum to showcase our industry and all the exciting careers the poultry sector has to offer.

More than 45 industry experts, educational organisations and universities, it was also an ideal opportunity for PHA to network with other organisations and connect with other members of the poultry industry.

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Poultry Industry Calendar of Events

2022

OCT 19 – Poultry Industry Golf Day, Sydney, Australia, info@ew-nutrition.com

OCT 30- NOV 1 – Poultry Tech Summit, Altanta, US, www.wpsa.com

NOV 6-10 – SIMA Paris, France, en.simaonline.com

NOV 8-10 – European Symposium on Poultry Genetics, Hannover Germany, www.espg2022.org

2023

Jun 21-24 – European Symposium on Poultry Nutrition, Rimini Italy, www.wpsa.com

SEP 4-8 – Congress of the World Veterinary Poultry Association, Verona Italy, www.wvpac2021.com

How to supply event details: Send all details to National Poultry Newspaper, PO Box 162, Wynnum Qld 4178, call 07 3286 1833 or email: design@collins.media

poultrynews.com.au
07 3286 1833

Poultry Hub Australia attended the Tamworth Agricultural Careers Expo.

PHA projects and agricultural careers expo

☛ from P1

Students were very engaged and asked lots of great questions.

Many of the students were keen to get a chance to experience the industry through work experience or training.

This is a request we often receive and, on the back of a shortage of workers in the industry, PHA is now looking at ways we can facilitate more interaction between schools and farms – with the hope that we can alleviate some of the capacity shortages experienced in the industry.

Ideas Exchange has been booked in for mid-October in Melbourne.

We are looking forward to catching up with you in person finally, sharing our great achievements and also exchanging new ideas for the future of the industry.

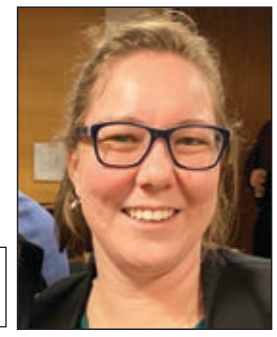
Ideas Exchange is a great avenue for industry personnel and researchers to come together to develop relationships and collaborations that benefit the entire industry.

Registration for the conference is by invitation only, so if you are interested in attending or want to find out more, contact us at poultryhub@une.edu.au

Farmers welcome food safety review and egg-stamping unity

Egg Farmers of Australia

by **MELINDA HASHIMOTO**
CEO



AUSTRALIAN egg farmers welcome a new food safety review to our industry and hope it will fast-track uniform 'egg stamping' laws across the nation.

I congratulate Food Safety Australia New Zealand for undertaking the review into the farming and processing standards of fresh eggs and egg products – known as Standard 4.2.5.

We specifically hope the review will eventually lead to uniform egg-stamping laws across the country.

FSANZ knows that we want every egg offered for sale in Australia – commercial or home-grown – to be stamped with a unique registration code for food safety and traceability purposes.

But currently, there are too many differing state rules, which hamper such efforts.

Egg stamping is the process where ink stamps are applied to eggs in order to trace them back to the farm of origin in the event of disease outbreak.

While most large commercial producers have their own traceability systems in place, small and medium farms may not.

Every Australian state has its own egg stamping legislation and food regulations.

In some states, egg stamping is compulsory, while in NSW, Victoria and Tasmania exemptions can apply where eggs are not identified for tracing.

COVID-19 and earlier outbreaks of avian influenza and salmonella enteritidis on poultry farms in southern states prove that compulsory egg stamping is highly desirable.

Australian egg farmers produce 17.9 million eggs daily, from 21.9 million laying hens.

Many of these eggs cross state borders daily, so the more harmonisation between states on the issue of egg stamping, the easier it is for egg businesses to operate between states.

Egg Farmers of Australia call for NSW, Tasmania and Victoria to align with the rest of the country and make egg stamping compulsory.

The FSANZ review will focus on the relationship between biosecurity and food safety measures on egg farms.

This includes bird health as well as on-farm control and monitoring systems for harmful bacteria such as salmonella.

Egg stamping would allow for faster tracing back to the farm of origin for eggs that were subject to incidents of salmonella.


A bacon and egg tart by egg fan and chef, Christopher Lawson.

New ag minister commences on-farm visits

THE new Minister for Agriculture, Fisheries and Forestry Murray Watt undertook his first farm visit as Minister in early June, to hear first-hand from farmers and other industry representatives about the challenges and opportunities facing the sector.

Minister Watt spent the day in the Emerald region in Central Queensland, visiting cattle saleyards, a cotton farm, cotton gin and leading ag tech developer SwarmFarm Robotics.

"I've spent a lot of time in Central Queensland – one of the country's most productive agricultural regions – and I wanted to return there to kickstart my term as Agriculture Minister," Minister Watt said.

The visit coincided with the release of new figures showing agricultural exports will hit a record $65 billion in value in 2022-23 as the new Albanese Government prepares to tackle labour shortages and biosecurity threats and help farmers derive more value from their produce.

Minister Watt told local farmers and industry representatives that the Albanese Government was focussed on helping them overcome mounting input and supply chain challenges, while also positioning the sector to seize the massive opportunities arising from increased efforts to tackle climate change.


The new Minister for Agriculture, Fisheries and Forestry Murray Watt.

"I'm pleased to report that the latest agricultural commodities report by the Australian Bureau of Agricultural and Resource Economics and Sciences predicts record exports worth $65 billion in 2022-23 and a second consecutive year of more than $80 billion in production," Minister Watt said.

"We are expecting our forestry and fishing sectors also to perform well, with the total value of the four industries forecast to be $86.2 billion, just below the record result for 2021-22.

"But rising costs and access to farm labour and imported machinery will continue to challenge many Australian farm businesses.

"We understand this and that's why I've identified these issues as key priorities for me, as the new minister.

"The government will strengthen the Pacific Australia Labour Mobility scheme to help overcome labour shortages, but there is also much more we can do to attract Australian workers to regional areas and retain them.

"I'll be working closely with my Cabinet colleagues to ensure that regions benefit from the new government's increased emphasis on training up local workers."

Tackling biosecurity threats and ensuring farmers derive more value from their renowned produce are also priorities for Minister Watt.

"I've been briefed by Australia's chief veterinary officer Dr Mark Schipp upon his return from Indonesia, where there are worrying outbreaks of foot-and-mouth disease and lumpy skin disease in cattle right now," Minister Watt said.

"I'm working closely with experts and stakeholders to ensure that we have the right protections in place and continue to make the right biosecurity investments – at home and offshore.

"As well as protecting the industry, we want to help farmers derive more value from their produce through value adding and innovation.

"We want Australia to not only grow the wheat but also make the flour, biscuits and cakes and process and package meat for domestic and international markets.

"That's why we will invest $500 million through our National Reconstruction Fund to encourage farmers to create more food products in Australia, in addition to selling raw commodities overseas.

"Australian agriculture is on track for another record-breaking year, and the new government will be doing everything we can to support it with continued innovation, value adding and increased decarbonisation efforts."

Minister Watt was accompanied by National Farmers' Federation president Fiona Simpson and chief executive officer Tony Mahar, Agforce general president Georgie Somerset and Cotton Australia chief executive officer Adam Kay.

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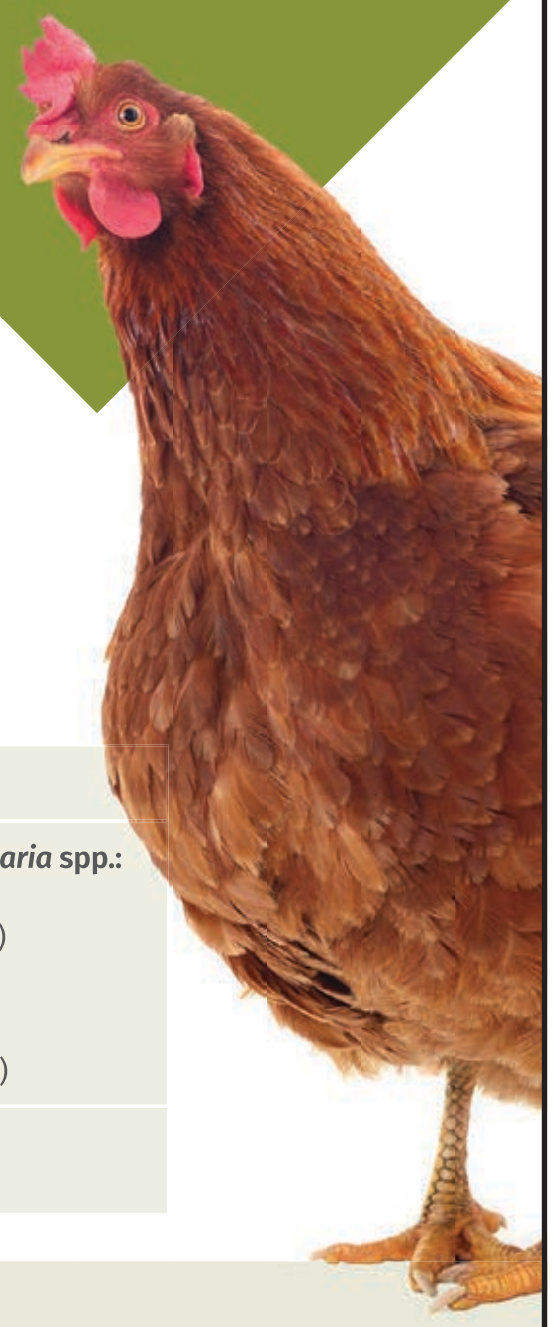

Only Flubenol Oral Wormer treats all life stages of the common worm species affecting chickens

Flubenol is NOW AVAILABLE in both a 600 g container and a 25 kg bag

DOSAGE AND ADMINISTRATION

Species	Chickens
Dosage	***Ascaridia galli, Heterakis gallinarum, Capillaria* spp.: 600 g of Flubenol per tonne of feed** (equivalent to 30 g flubendazole (30 ppm)) **Tapeworm (*Raillietina* spp.): 1200 g of Flubenol per tonne of feed** (equivalent to 60 g flubendazole (60 ppm))
Administration Period	7 consecutive days

- Flubenol is the only in-feed de-wormer, with efficacy against ALL developmental stages of the commonly found worms in chickens[1,2,3]
- Flubenol treatment has no effect on egg-laying, fertility, hatching or embryo mortality[4,5]
- Zero day egg withdrawal allowing eggs to be taken for human consumption during and after treatment
- The only poultry de-wormer registered for Tapeworm control

Always read and follow the label directions. Stringent housing hygiene management is essential for optimal worm control. Resistance may develop to any chemical. Chickens: Withholding period: Meat: 7 days Eggs: zero days. Contraindicated for use in pigeons and parrots. For full product details, contact Elanco Customer Service on 1800 226 324 or visit www.growsolutions.elanco.com.

1. Rodriguez-Gonzal E et al. Anthelmintic Benzimidazoles in Eggs. Chapter 44 in Egg Innovations and Strategies for Improvements (ed. P. Hester). Elsevier. 2017. **2.** Lacey E. et al. The role of the cytoskeletal protein, tubulin, in the mode of action and mechanism of drug resistance to benzimidazoles. Int J Parasit. 18 (7):885-936. 1988. **3.** Chassaing C. et al. Highly Water-Soluble Prodrugs of Anthelmintic Benzimidazole Carbamates: Synthesis, Pharmacodynamics, and Pharmacokinetics. J Med Chem. 52:1111-1114. 2008. **4.** Committee for Medicinal Products for Veterinary Use. Flubendazole (extrapolation to poultry). Summary Report (4). European Medicines Agency. July 2006. **5.** Froyman R. & De Keyser H. Flubendazole: safety regarding egg production and reproductive performance of breeder chickens. Av Dis 27:1 (43-48). 1983.

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A flavour revelation for a supermarket roast chicken.

I'm a fan of pastured eggs from hens that get out and about.

The author's go-to egg farm Fremantle Egg Company's product typically has great colour and plenty of flavour.


What better way to start the working day?

Shelling out for production preferences

Cant Comment

by BRENDON CANT

I LOVE chickens and I love eggs.

Chicken meat, while always appealing to me, has definitely come in to its own and into my home big-time over the past few years – largely for economic reasons.

Of course, it's long been the best value meat protein when measured against the big three.

Chicken far surpasses beef – the price of which has gone through the roof in the past year or so – lamb and pork, albeit the latter comfortably and consistently represents the best value compared to the other four-legged proponents.

The one issue I do have with chicken however is that it can be a little bland and often needs revving up during the cooking process, with for example marinades, sauces, curries and spices.

This is especially the case with mass-produced shed-grown fast-growing chickens – bred and raised to go from the shed floor to the table as quickly as possible.

The notable and flavoursome exceptions are pasture-raised hens, or even roosters, according to my poultry palate.

While these are typically more difficult to find and inevitably more expensive, they still offer relatively good value for money and certainly come home to roost on the flavour front.

Very occasionally, I will resort to buying a cooked roast chicken from my local Woolworths,www and admit I was pleasantly surprised recently when I bagged a Woolies tandoori hot roast chicken for $12 – I think the same price as the usual 'plain' version.

The tandoori-flavoured chook was so good and it backed up my premise that fast-growing industrial chickens need sprucing up!

When it comes to eggs, my bare minimum is free range but my preference is pasture raised.

The latter production category – and yes, it's a price point thing – gives chickens the best possible chance to do what chickens want to do, that is forage, peck and scratch around, dust-bathe and freely frolic.

On the other hand, chickens in free range systems may choose to not even leave the confines of their sheds, and in many cases spend relatively little time free ranging.

Having said that, I can rarely go past the brown Hy-Line free rangers at Fremantle Egg Company without pulling in and picking up a dozen mega jumbo eggs, and usually enjoying a quick chat with owner Ian Wilson and his friendly staff in their spruced up farm shop.

These 840g beauties almost always have great colour and plenty of flavour, albeit sometimes seasonally going 'off the boil' a little.

I must say, it's nice having a nearby go-to egg farm when you reside in the suburbs, as I do in South Fremantle.

I have at various times of my life kept and bred meat and egg chickens and assorted other poultry, including ducks, geese, turkeys, partridge and quail.

But alas, today none will fit on my small suburban block.

With local government bylaws becoming more restrictive each year, sadly the days of backyard suburban chooks are probably on the way out.

Let's hope therefore that the likes of Ian Wilson retain their interest and investment in poultry, so we urbanites can continue to enjoy the products of their endeavours.

They need consumer support now more than ever as they face radical input price hikes, environmental and planning intrusions and sometimes overzealous government regulation.

So, decide on your personal production preferences and shell out now and buy Aussie eggs.

Closed-loop egg farming. Having peaked in its production cycle, this Hy-Line hen was culled, returned to its original home, then bought by me and turned into a hearty winter soup.

Even the most resilient people need help and support

■ Zoetis and Beyond Blue support the mental health of Australia's local communities

CONSIDERING the vastness of Australia and the number of people who live in regional and rural areas, it's a concerning fact that remoteness is a major risk factor contributing to mental health issues and suicide, with the suicide rates being 60 percent higher than rates in major cities.

In addition, people in outer regional, remote and extremely remote areas of Australia face more barriers accessing health care than people living in major cities, making it harder for them to maintain good mental health.

In a continued effort to raise awareness of mental health in rural and regional Australia, leading animal health business Zoetis has partnered with Beyond Blue to support mental health initiatives and reduce the stigma around mental health.

Over the past six years, Zoetis has raised $600,000 for the Beyond Blue Support Service by donating $5 from each sale of the company's livestock, pig and poultry vaccines and drenches.

In 2022, Zoetis aims to again reach its $100,000 fundraising target by the end of the year.

Zoetis senior vice president and cluster lead Australia and New Zealand Lance Williams said, "Zoetis works closely with rural Australia through interactions with the country's farming community, agricultural stores, veterinarians and their families."

"We are proud to be supporting Beyond Blue and the important work they do.

"The money raised goes directly to the Beyond Blue Support Service to continue helping people living in remote areas.

"To date, thanks to Zoetis' donation, over 12,000 people have been able to get the support they need through the service.

"Together we have made strong progress in supporting the mental health and wellbeing of those who live in rural Australia, and we are passionate about helping again this year."

Derek Schoen, a farmer for more than 36 years, is a beef, grain and hay producer in Corowa, NSW.

Mr Schoen is a member and former president of the NSW Farmers Association, a former deputy mayor of Corowa Shire Council, NSW Rural Assistance Authority Board director, chair of Murray Local Land Services and is on Beyond Blue's Board of Directors, providing a wealth of experience on rural life.

"The farming community has endured many challenges over the years," Mr Schoen said.

"Through droughts, floods, bushfires and ongoing COVID-19 related issues, rural Australia and country people are stoic and display considerable courage, however the impact on mental health has been significant for many."

With many farmers, small business owners, workers and parents feeling the pressure, it is vital that people receive mental health support as early as possible to prevent their issues leading to more serious mental health conditions.

Financial hardship, isolation and stigma can take a toll on those in distress, placing their mental health at risk.

It is important to remember that depression and anxiety are common conditions, not weaknesses, and with the right treatment, most people can recover.

"The good news is that most of us will be able to cope very well with challenges as they arise – we will use our normal resources, our strengths, networks and the support that we have around us from family, friends and loved ones," Mr Schoen said.

"People in rural Australia are known for their resilience in times of crisis, but even the most resilient among us need extra support at times.

"We want everyone to know that support is available and encourage people to seek advice.

"Asking for support is a sign of strength, not weakness."

Beyond Blue chief community officer Patrice O'Brien said the journey to better mental health can start with small actions.

"It's important to make looking after ourselves a priority and set goals for sleep, exercise and 'me' time," Ms O'Brien said.

"Maintaining social connections, keeping in touch with friends and family, and being part of a community provides a supportive network.

"Also, understanding which tools and strategies work well for you in tough times and reaching out for that extra support when you need it are really important."

Feeling connected with others can reduce stress and build resilience.

The main thing for everyone to know is that, "You are not alone, and you don't have to work things out by yourself," Ms O'Brien said.

"Whatever the reason, Beyond Blue wants people to know that no problem is too big or small to reach out.

"Sometimes, just talking to someone can make a difference."

Case study Eddie Sloan

Eddie Sloan is a former farmer who worked in the agricultural industry at management level after having to leave the family farm in Western Australia in the early 1990s.

A change of direction in his career saw Eddie follow a path into the disability sector, working with and supporting people with disabilities into meaningful and lasting jobs in Kingaroy Queensland.

Eddie grew up as a third-generation farmer in Western Australia and after losing his father in his late teens, he suddenly found himself with a lot more responsibility, managing the farm on his own.

With the added pressure, he first started experiencing issues with his mental health in his twenties but became good at masking how he felt and used alcohol as a coping mechanism.

It was following several hospitalisations after attempting to take his own life and receiving support and treatment that, at the age of 45, Eddie accepted he had an illness and realised it could be managed.

Eddie says resilience is an important part of his mental health journey that keeps him putting one foot in front of another.

"At one stage where I was struggling to get up each day and get out of the house, I would tap into my own self-reliance and inner strength to keep going in small ways," Eddie said.

"Being resilient meant taking those small steps, keeping going, connecting with family and knowing things would get easier.

"I want people to know there is always hope, and that early detection and management is an important step towards recovery, and in doing so we find our resilience within."

The Beyond Blue Support Service offers free and immediate counselling, advice and referrals via phone, webchat or email.

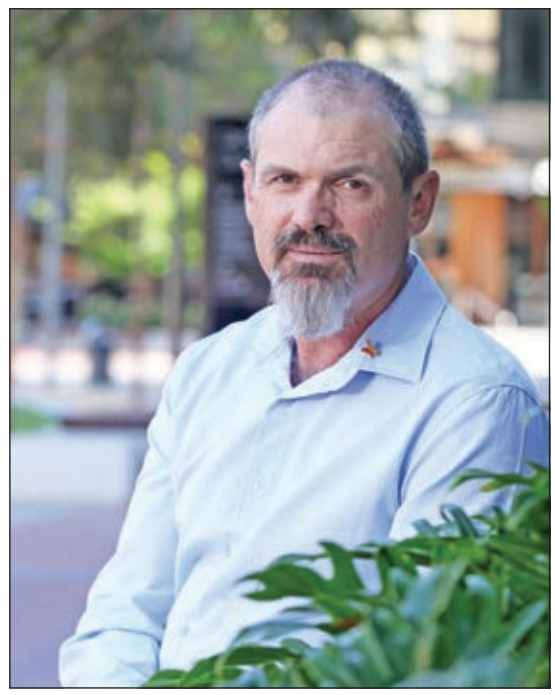
In addition to the support service, Beyond Blue has resources and information online at beyondblue.org.au, including online forums that offer peer support in a safe, moderated setting.

People can support the Zoetis initiative from July 18 to October 31, 2022.

For every animal health product sold by Zoetis, the company will donate $5, up to $100,000, to Beyond Blue.

For more information on how you can help Zoetis to raise vital funds to support mental health in rural communities through its partnership with Beyond Blue, visit zoetis.com.au

For more information about depression and anxiety, visit beyondblue.org.au.



Eddie Sloan is a former farmer who worked in the agricultural industry at management level after having to leave the family farm in Western Australia. Read his case study in this article.

Smart ventilation technology produces a poultry house environment that automatically controls temperature, humidity and other production-essential aspects.

Smart tech system to improve energy use

SMART poultry house ventilation technology produces an environment that automatically controls temperature, humidity and other pertinent aspects.

This artificial intelligence enhances ventilation systems by maintaining stable conditions to improve animal welfare, production efficiency and conserve energy.

Agrimesh Technologies sales director Erik Longtin said: "Rather than having to program and tell the controls how it needs to run, we simply input our set points and the system is able to learn on its own by testing and learning how each fan inlet and each heater affects the temperature and humidity inside the room."

The smart matrix ventilation system incorporates data from outside and weather forecasts using AI to manage the heating, water, lighting, feed, temperature, carbon dioxide equipment and ventilation.

The system offers three operation modes – preparation, eco and production.

Growers input the humidity, temperature and arrival and exit dates of the birds and the system automatically configures the environment settings in preparation for the arrival of the birds.

The system creates poultry house stability, lends itself to savings in energy consumption and helps to improve animal welfare.

"A less-stressed bird will have a better digestive system, a better feed conversion and lower mortality," Mr Longtin said.

The AI tech features at the 2022 Poultry tech Summit in Atlanta, Georgia in the US on October 30 to November 1.

Facilitating the next step for innovative tech from development to commercial application to advance the poultry sector, the 2022 Poultry Tech Summit is now open for registration.

Easy shed wash down

AUSTRALIA'S leading high-pressure water blaster manufacturer Aussie Pumps has launched a new version of their unique stainless-steel Scud pressure cleaner, configured solely for poultry shed applications.

Powered by a Honda petrol engine, Aussie Pumps' research resulted in the development of a unique combination of flow and pressure that enables the machine to 'wash and flush'.

When Aussie introduced the unique Scud design pressure cleaner a decade ago, the company had no idea the perfectly balanced ergonomic design would result in such huge success – not only in Australia but around the globe.

Starting with a Honda 13hp petrol engine, driving a heavy-duty slow-speed 'Big Berty' Bertolini triplex pump and all encased in a 'no sharps' stainless-steel frame, the Aussie Shed Wash was born.

Aussie Pumps chief engineer John Hales said: "We even put big 13" steel wheels with flat-free tyres on to make it easy to push around."

The latest configuration – based on feedback from operators – is a 21LPM flow pump, running at 2600psi.

That unique combination of more flow and moderate high-pressure provides all the cleaning power required for shed wash down.

Development of the Aussie Scud for chicken sheds included the stainless-steel high-pressure hose reel, rated to 5000psi, fitted with 30m of high-pressure hose.

"That extra hose length – conveniently mounted on top of the machine – means the operator doesn't have to move it around during cleaning," Mr Hales said.

"Which leads to efficiency that cuts the cleaning time, and fatigue and frustration of the operator."

The pumps are all equipped with heavy-duty unloaders, as well as Aussie's safety pack.

The safety kit includes a valve that will blow off in the event the operator inadvertently turns the machine pressure up higher than the preset rating.

"That protects the operator and the machine from a pressure spikes," Mr Hales said.

"Not only that but the safety valve can easily be reset after an incident."

It comes with a heavy duty 5000psi-rated gun, complete with stainless-steel double lance.

This means the operator has control of the pressure through the nozzle simply by the adjustment of a 'tommy gun' style handle half way up the barrel.

"The double barrel has a high-pressure nozzle on one side and a low-pressure nozzle on the other," Mr Hales said.

"When the operator manipulates the handle open or closed, the flow is directed to either high or low pressure, or even in between."

The operator can apply detergent to the machine at low pressure or switch it back and hose off the dirt and detergent at high pressure.

A complete range of high-pressure accessories come with the machine.

These include a 5.5m long telescopic wand with free harness.

When the operator pulls the trigger on the 'telewand', the weight lifts off as the pressure goes through the lance, making it easier for the operator to use.

Flat surface cleaners can slash cleaning times by up to 75 percent, and turbos for very tough jobs can also cut times dramatically.

Aussie Pumps' designs include slow-speed pumps for longer life.

They may be bigger and more expensive but will last much longer than high speed versions running at full engine revolutions of 3000 or even 3600rpm.

"We drive the pump from the engine through a 2:1 reduction gearbox, which is occupational health and safety friendly, is dust free and provides longer life to the drive system," Mr Hales said.

"We dispensed with belts and pulleys 20 years ago."

The machine can also be operated with Aussie's drain-cleaning kit, making it easy to clear blocked drains by using simple quick-couple attachments.

Further information on Aussie's Shed Wash machine is available from Aussie Pumps or dealers throughout Australia, visit aussiepumps.com.au

Aussie's Shed Wash ready for action.

BEC's Mark Fitzgerald retires

MARK Fitzgerald officially retired from his position as BEC Feed Solutions' general manager of premix and feed additives for Australia and New Zealand on June 30.

"After seven exciting and challenging years as GM of premix and feed additives at BEC Feed Solutions, it is now time for me to retire and move on to the next stage of my life," Mr Fitzgerald said.

Mr Fitzgerald enjoyed a long, distinguished and eventful career in the animal feed and poultry industries.

He has held senior management roles with businesses including Tegel/NRM in New Zealand, Niugini Tablebirds in Papua New Guinea, Sunnybrand Chickens, Darwalla, Ridley and BEC Feed Solutions in Australia.

During his many years of leadership, Mr Fitzgerald was involved in significant changes to these industries, particularly in the businesses he was a part of.

BEC Feed Solutions' Mark Fitzgerald officially retired from his position at the end of June 2022.

BEC Feed Solutions managing director Brett Antonio shared his sincere gratitude for the contribution and dedication Mr Fitzgerald had for the BEC business throughout his tenure.

"BEC's Board and shareholders and staff thank Mark for his commitment to the development of the business," Mr Antonio said.

"He's been a driving force behind many key projects for us, including the new premix plant that was opened last year.

"I am personally very grateful that we had him as part of the BEC team for the past seven years."

Mr Fitzgerald officially handed over to his successor at the end of June but will remain in a transitionary role to assist the business on major projects until September 30.

Dr Mark Connors, who has been with the BEC Group business since 2016, will commence in the general manager position for BEC's Australian and New Zealand business from July 1.

"I have been very fortunate to work closely with Mark Fitzgerald over the past four years, and this time has been incredibly valuable in learning the finer details of the premix and feed business," Dr Connors said.

"I wish Mark the very best for his retirement.

"He has left BEC in a fantastic position for the future."

Dr Connors originally established the BEC Biotech business venture and is still responsible for its operations and the success of the Lactipro product in the Australian market.

"Mark Connors has been our national sales and technical manager for the past four years and so the transition into the general manager position will be quite seamless," Mr Fitzgerald said.

"It is particularly pleasing that succession at this level can occur internally and I believe this reflects the culture of the BEC business and the quality of our staff.

"I'd like to personally thank all customers, suppliers and other business stakeholders for your support over the past seven years.

"I recognise that without your understanding, loyalty and support, BEC would not be in the position that I leave it in."

He intends to enjoy his retirement by travelling with his wife and relishing his time with his grandchildren.

Minerals and their effect on eggs

■ Hydroxychloride zinc, copper and manganese used in laying hens' diet affect egg production and egg quality characteristics

TRACE minerals are fundamental in the diet of laying hens for normal growth, optimum egg production and prime egg quality.

Most trace minerals used in poultry nutrition are available in both inorganic and organic forms.

However, different chemical forms of trace minerals and the amount fed to the hens may variously affect hens' production and egg quality.

Hydroxychloride trace minerals – referred to as hydroxy – have covalent bonds between the metal ion, hydroxyl and chloride groups, thus are less reactive in the feed and in the digestive tract, then may have higher bioavailability compared to other inorganic trace minerals which contain ionic bonds such as sulphate forms – referred to as ionic.

This study aimed to evaluate the effects of replacing zinc, copper and manganese from sulphate ionic sources with those from hydroxy sources on egg production and egg quality of layers during post-peak production.

Hy-Line Brown laying hens at 45 weeks of age (n = 600) were distributed into 300 cages of two birds, with 10 cages per replicate, and 15 replicates were allocated to each treatment.

Diets were composed mainly of wheat-soybean meal and formulated primarily to Hy-Line Brown commercial laying hen recommendations 2016.

There were two treatments – hydroxy or ionic – with Zn, Mn and Cu supplemented at 80mg/kg, 80mg/kg and 15mg/kg respectively, fed for 12 weeks.

Egg production was recorded daily.

At the end of week two, six and 12 of the study, two eggs per replicate were collected to determine mineral contents.

Eggshell ultrastructure – 16 different variables – was assessed at the end of the study.

Considering the entire production period of 1-12 weeks, feeding the hydroxy diet resulted in a 2.3 percent higher hen/day egg production and 1.6g/d higher egg mass compared to those fed the ionic diet, without any effect on egg weight – see Figure 1.

These results indicate that the hydroxy supplement had a greater effect in layers than ionic supplement, probably due to the higher bioavailability, greater absorption and utilisation of minerals than those fed the ionic diet.

There was a significant effect of the treatment on some of the eggshell ultrastructural scores.

Lower mammillary cap size variability, better cap quality, higher incidence of early fusion and late fusion were observed in the hydroxy group compared to the ionic group – see Figure 2 – indicating that the attachment of cap to shell membrane was consistent in hydroxy-eggs, and resulting in better shell quality in the hydroxy group.

This result could be attributed to the higher bioavailability from the hydroxy diet of these minerals involved in the eggshell formation, by their catalytic properties for enzymes involved in

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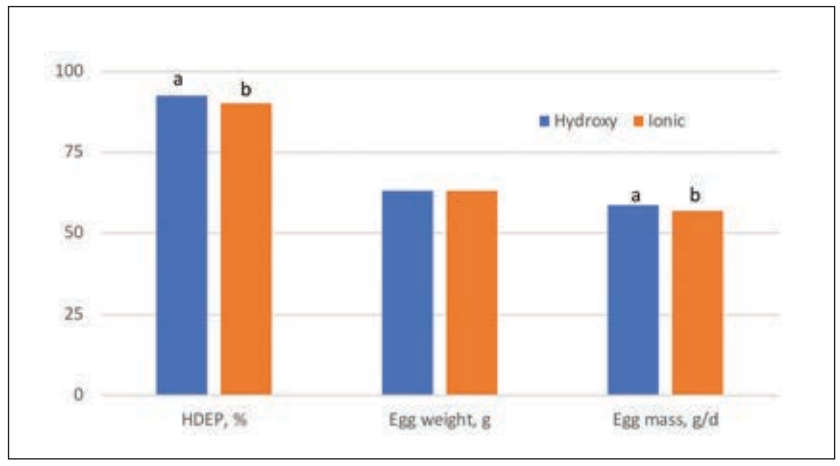

Figure 1. Egg production of laying hens response to the dietary treatments. a, b means significantly different between treatments (P < 0.01).

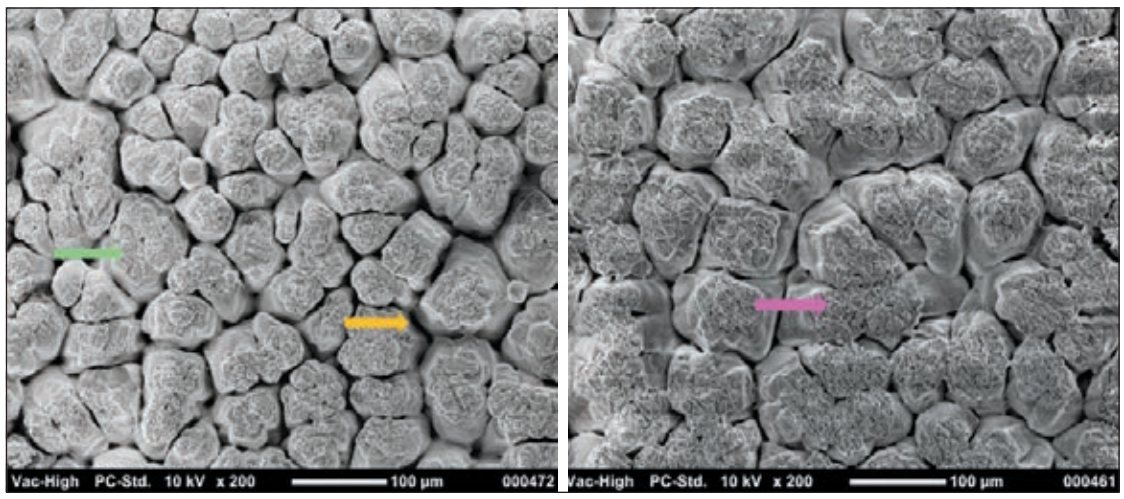

Figure 2. Representative ultrastructural image of eggshell in response to ionic treatment, left, and hydroxy treatment, right. Pink arrow = Good cap, early fusion, Green arrow = Poor cap, Yellow arrow = Late fusion.

Minerals and their effect on eggs

☛ from P8

the process of membrane and eggshell formation.

Where fusion is late, crack propagation through the shell wall and thereafter outwards from the load point will occur more rapidly.

Even though some good ultrastructural features were found in the mammillary layer of the eggshells in this study, a higher incidence of late fusion was observed in eggs from the hydroxy-fed hens, suggesting the growth of the palisade columns might partly be slower during shell formation.

Dr Anna Nguyen.

Birds fed the hydroxy diet had increased Cu concentration in the eggshell and increased the albumen Mn content compared to those fed Ionic diet – see Figures 3 and 4.

It is more challenging to discern sensitive parameters that respond to dietary Mn in layers because the egg or eggshell is not only regulated by dietary Mn but also the body of the laying hen itself.

In this study, eggshell Cu, egg yolk Zn and albumen Mn contents exhibited a significant response to the dietary treatments, with higher trace mineral accumulation in eggs of the hens fed the hydroxy diet compared with the ionic diet.

This suggests that trace minerals – which are more available and better absorbed from the hydroxy-supplemented diet – were retained more in the eggshell of the hydroxy-fed birds than the ionic-fed birds.

As hens aged, egg albumen at week two contained lower Cu, Mn and Zn concentration while week six samples had the highest Mn, Cu and Zn, compared to the samples collected at other weeks – see Figure 5.

The differences in the source of trace minerals, the level of added minerals, the ratio of trace minerals and the level of minerals in the basal diet may partly explain the discrepancies in these studies.

In conclusion, replacement of Mn, Zn and Cu sulphate with hydroxychloride sources in Hy-Line Brown laying hen diets during post-peak production can improve egg production, egg mass and eggshell ultrastructure features, and significantly increase Cu in eggshell and Mn in albumen in eggs compared to birds fed with identical levels from sulphate sources.

Further investigation into any further benefits of hydroxychloride trace mineral supplementation in post-peak laying hens over extended laying cycles could be of interest.

We would like to acknowledge Trouw Nutrition, a Nutreco company for funding this project.

For more information, contact Dr Anna Nguyen on tnguy206@une.edu.au

Dr Anna Nguyen

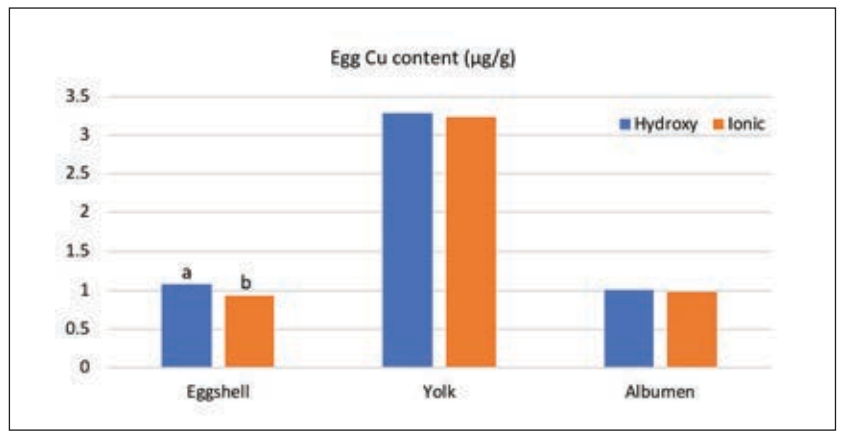

Figure 3. Egg Cu content (µg/g) in response to the dietary treatments. a, b means significantly different between treatments (P < 0.01).

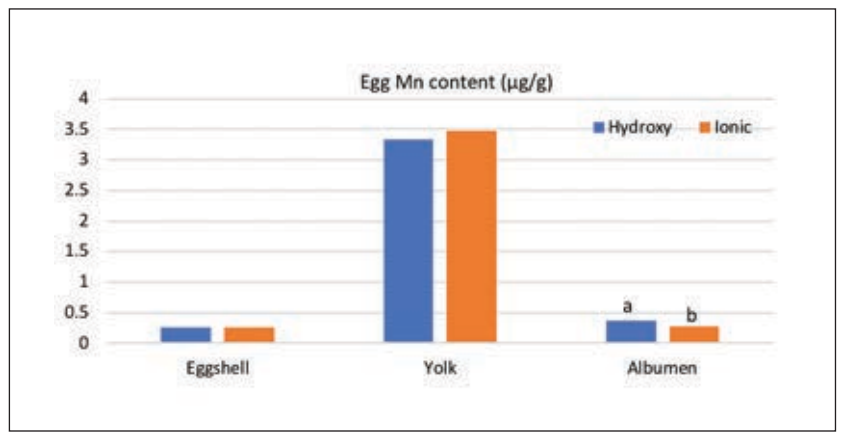

Figure 4. Egg Mn content (µg/g) in response to the dietary treatments. a, b means significantly different between treatments (P < 0.01).

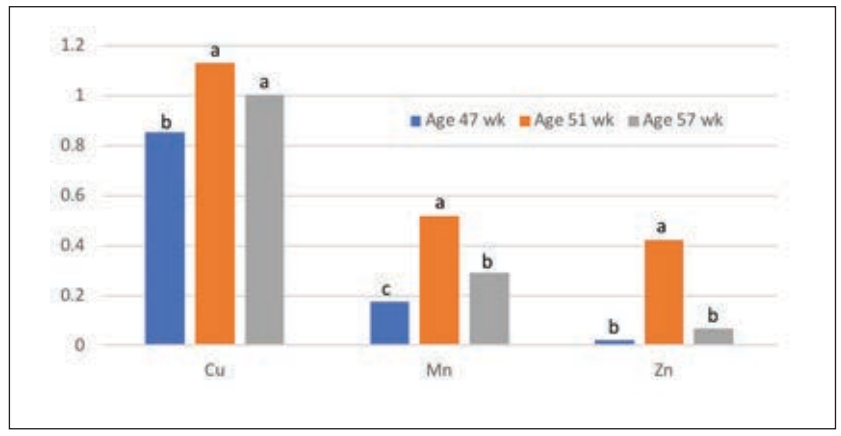

Figure 5. Effect of age on albumen Cu, Zn, Mn content (µg/g). a, b, c means significantly different between treatments (P < 0.01).

Figure 1: Three types of sunlight filtering shelters set up on a commercial farm in Queensland – 1. 90 percent UV-filtering cloth shelter, 2. 70 percent UV-filtering cloth shelter and 3. 50 percent UV-filtering cloth shelter.

High UV radiation and hot temperatures affect hens' range use in summer

THE consumer demand for free range eggs and perceived improved hen welfare when outdoor access is available is increasing worldwide, including in Australia.

However, hens have a choice in accessing the outdoor range which could depend on numerous factors, including weather conditions and sunlight intensity.

Geographically, the position of Australia results in high levels of ultraviolet radiation with high-intensity sunlight across the country during summer, and this can affect hens' outdoor range use.

However, it is unknown which aspect of sunlight has the most impact on range use.

Additionally, enriching the outdoor range with artificial covers can protect the hens from direct sunlight, but degree of protection may influence shelter use.

So, how do hens respond to different spectra of sunlight during the summer when it becomes most intense, and do hens prefer shelters with higher sun protection?

Recent research addressed these questions across two consecutive studies.

To determine the relationship between hen range use and different sunlight spectrums along with ambient temperature and humidity, a study – Exp-1 – was carried out on three different commercial free range layer farms with diverse Australian climatic conditions in Tasmania, Queensland and Western Australia during the summer autumn period December to May.

A further study – Exp-2 – undertaken on a commercial farm in Queensland, provided outdoor cloth shelters with different sunlight filtering percentages to determine if hens showed preferences for different shelter types during the summer – see Figure 1.

Exp-1

A single shed comprising 20-30,000 laying hens from each farm and part of the associated range area was selected for this study.

The distribution of hens within the range was video recorded during the day throughout the entire study period.

Later, the number of hens was counted within the sampled area separately during sunny and cloudy conditions, using image snapshots taken at 30-minute intervals from the time of pop-hole opening until sunset.

When it was sunny, hens were counted in range areas under direct sunlight – 'sun' – and in the shaded areas of range shelters or the shed – 'sun-shade'.

When it was cloudy, the exact parts of the range area under the direct

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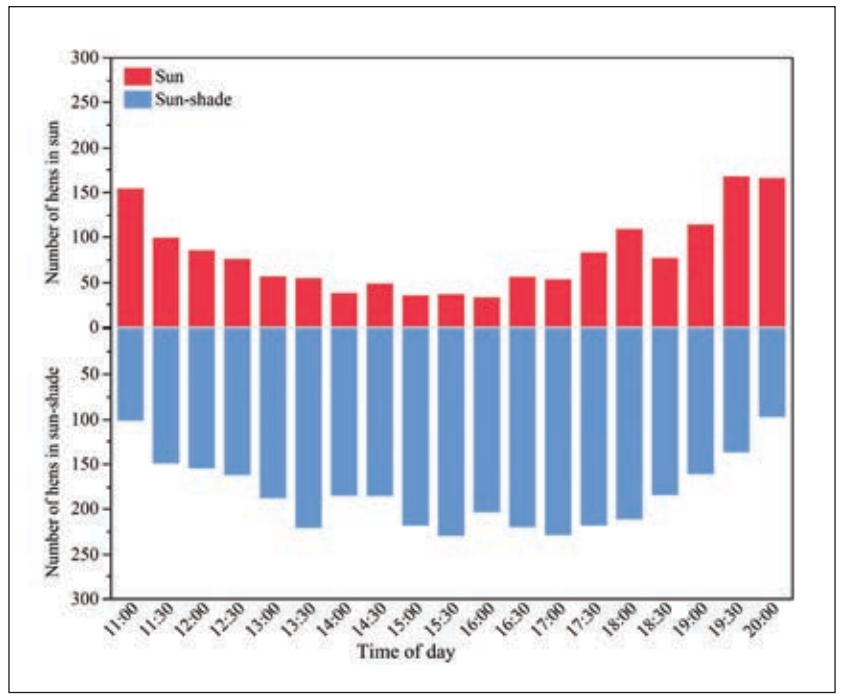

Figure 2: Hen range use on sunny days during the day on a commercial farm in Tasmania.

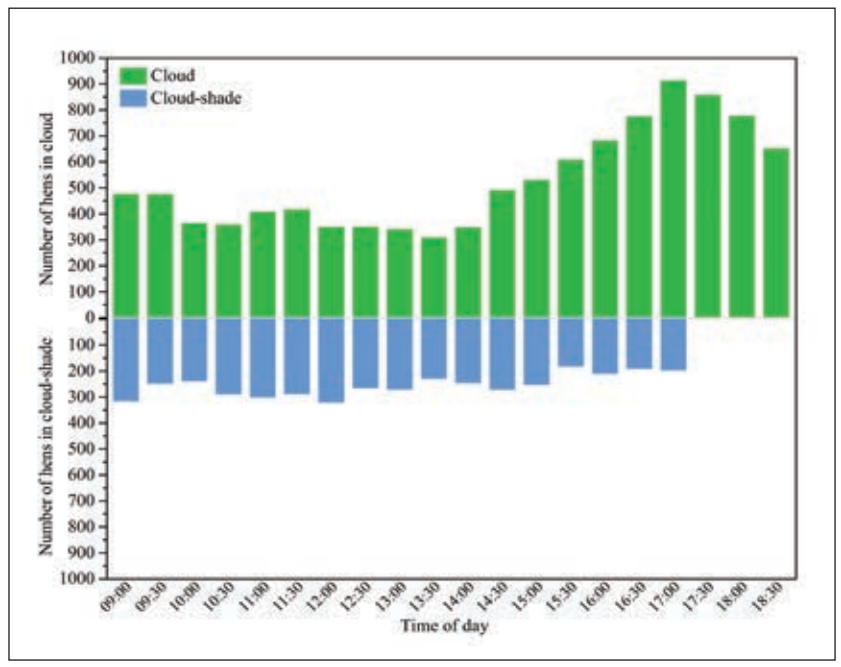

Figure 3: Hen range use on cloudy days during the day on a commercial farm in Queensland.

High UV radiation and hot temps affect hens' range use in summer

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sunlight and shade from previous sunny days were marked and the number of hens counted in the 'cloud' and 'cloud-shade' respectively.

An onsite weather station was set up on each farm to record the irradiance or intensity of different sunlight spectrums using specific sensors, including UVA/B radiation 288-432nm, photosynthetically active radiation 400-700nm – this is visible light – and total solar radiation 285-3000nm.

Infrared radiation 700-3000nm was later extracted from TSR.

In addition, air temperature and relative humidity sensors recorded these ambient parameters.

As expected, in the 'sun', range use by hens was decreased during the midday period, which then gradually increased over time in the late afternoon to evening, with the opposite pattern observed in the 'sun-shade' – see Figure 2.

In cloudy conditions, there was a similar pattern of range use across most of the time points – see Figure 3.

The distribution of hens on the range was also influenced by months indicating seasonal effects on hen ranging – see Figure 4.

Md Sohel Rama DVM MS PhD research fellow at the University of New England.

Range use decreased when the ambient temperature, UVA/B and PAR increased, indicating that hens are sensitive to specific wavelengths of sunlight and they avoid intense radiation that may be visually aversive or damaging.

Exp-2

The outdoor range of two different sheds on a commercial farm in Queensland was enriched by placing UV-filtering cloth shelters of different densities – 90 percent, 70 percent and 50 percent UV-block but visually blocked all sunlight spectra – with three replications each.

Across the summer, hens' shelter use during the day was video recorded, with sunlight and weather data recorded through an onsite weather station.

Hens' shelter preferences were determined by counting the number of hens underneath the shelter from image snapshots taken at 30-minute intervals during pop-hole opening to slightly before sunset across 14-17 days.

Across most time points throughout the day, hens preferred shelters that filtered the most sunlight – see Figure 5.

The ambient temperature was the greatest predictor of hens' shelter usage overall, where fewer hens were underneath during the midday period.

This suggests that artificial structures might not be sufficient to attract hens outside during sunlight periods across summer.

In a nutshell, hens' range use is impacted by bright sunlight with high UV radiation and hot temperatures when sunlight is at its most intense.

Shelters on the range should have the highest sunlight filtering capacity to protect hens from the damaging effects of sunlight radiation.

Finally, we would like to acknowledge Australian Eggs for funding this research and we are thankful to the generous support of all the commercial farms involved in these studies.

For more information, contact Dr Dana Campbell at dana.campbell@csiro.au and Md Sohel Rana at ranasoheldvm06@gmail.com

Full publication of the two studies are also available online:

- Relationship between sunlight and range use of commercial free-range hens in Australia – doi.org/10.1371/journal.pone.0268854
- Commercial free range laying hens' preferences for shelters with different sunlight filtering percentages – doi.org/10.3390/ani12030344

Md Sohel Rana

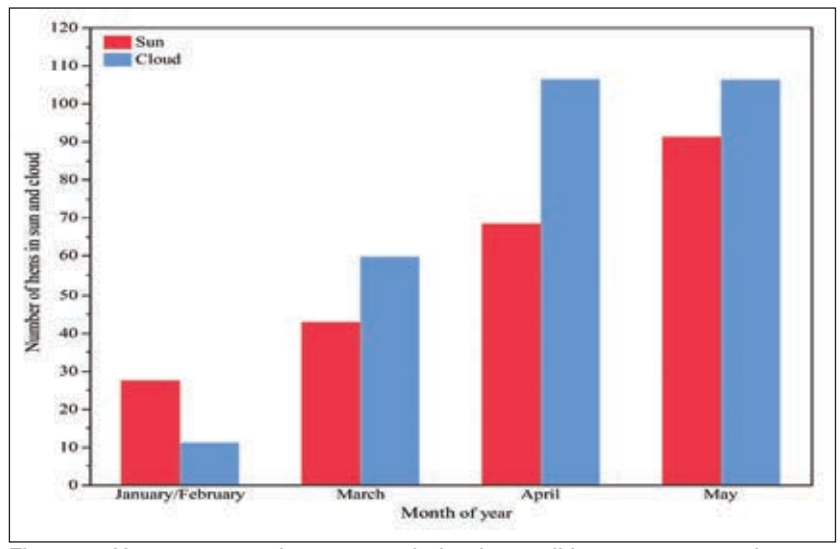

Figure 4: Hen range use in sunny and cloudy conditions across months on a commercial farm in Western Australia.

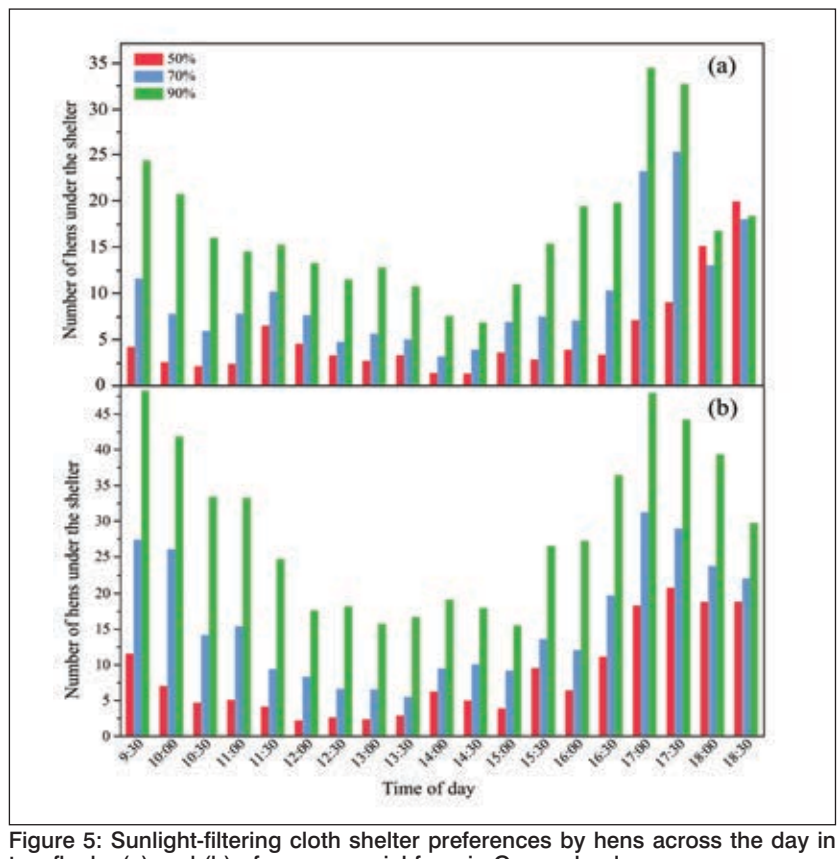

Figure 5: Sunlight-filtering cloth shelter preferences by hens across the day in two flocks (a) and (b) of a commercial farm in Queensland.

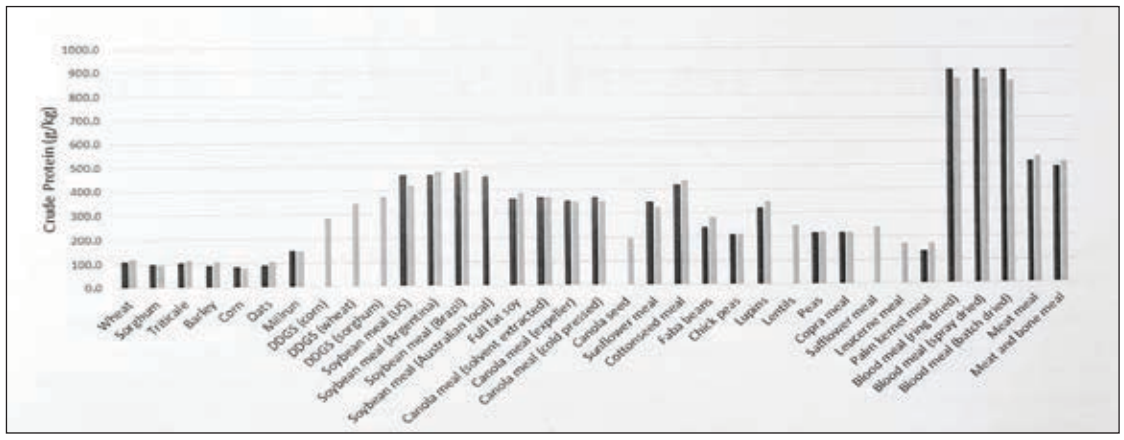

Figure 1. Mean crude protein level (g/kg) of 35 feed ingredients for Australian (dark grey) and global (light grey) data.

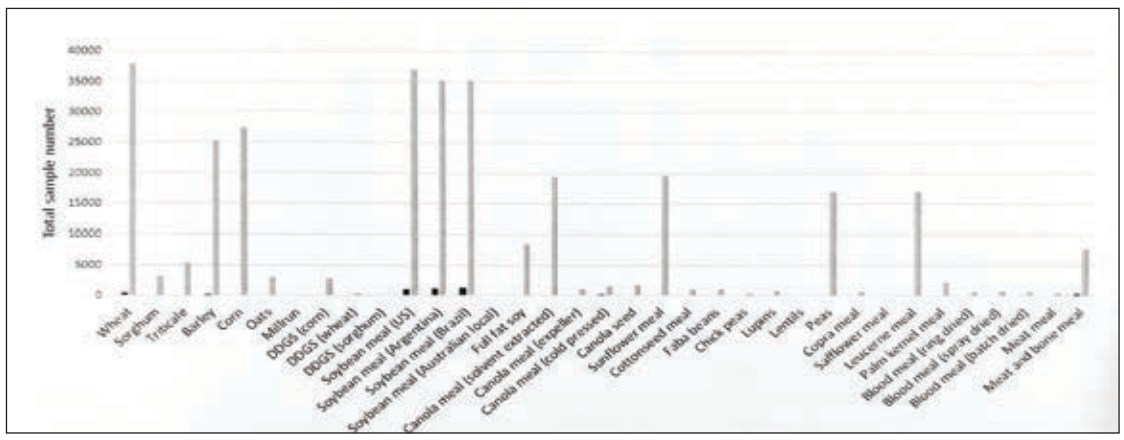

Figure 2. Total sample number of 35 feed ingredients for Australian (dark grey) and global (light grey) data.

Development of a database on the nutrient content of Australian feed ingredients

FEED represents the primary cost of poultry production, thus the formulation of cost-effective diets that meet poultry nutrient requirements is critical.

To ensure this objective is met, nutrient specifications of feed ingredients must be accurately determined.

Due to the tight time constraints and fast pace of the industry, feed ingredients delivered to the feed mill are unable to be analysed via wet chemistry.

Consequently, near-infrared spectroscopy calibrations are often used within integrated operations to estimate the nutrient composition of feedstuffs.

However, these readings often end up being received as 'historical' data, as it can be a month before they reach the nutritionist due to practical constraints, thus they are not available at the time of diet formulation.

Furthermore, consultant nutritionists often do not have access to NIR and must rely on book values.

As an example, in a recent survey of the Australian poultry industry, only 40 percent of nutritionists who formulate diets for layers had access to NIR.

Therefore, Australian nutritionists have expressed concern, as many nutrient specification databases contain dated information or lack Australian specific data.

Variability and uncertainty in feed ingredient specifications is a challenge for the poultry industry, as wider safety margins must be applied to formulations to ensure the minimum nutrient requirements of poultry are being met.

However, increasing safety margins raises diet cost and thus compromises profitability.

Therefore, it is important to have an understanding of the variability that may be present within our Australian feed ingredients – if this is underestimated, diets may not meet minimum requirements, and it if this is overestimated, then feed costs may be unnecessarily expensive.

Additionally, it has been shown that the normal amount of variation within poultry diets may lead to practical problems.

A 10,000-observation simulation of the non-phytate phosphorus content of feed formulated to a 'minimum' 0.45 percent NPP level in 2020 revealed that due to the sum of the variation in the ingredient NPP content, the actual dietary level may range anywhere from 0.25 to 0.69 percent.

It was calculated that the variation found in a practical broiler diet is enough that 12.9 percent are expected to have less than 0.40 percent NPP and 12.8 percent are expected to have more than 0.50 percent NPP.

Thus, the normal levels of variation within industry may be enough to induce leg issues such as phosphorus rickets or tibial dyschondroplasia.

Finally, databases used by nutritionists come from various sources – however, cross-checks of each figure contained in a database are tedious and costly, and the determination and use of some nutrients have been constantly evolving.

Therefore, a compilation and review of recent Australian and global feed ingredient data for commonly used Australian feed ingredients was completed to assist nutritionists to understand the variation that exists within our feed ingredients.

The database

This project funded by AgriFutures Chicken Meat compiled recent – within the past five years – Australian and global data into a database of nutrient specifications for commonly used feed ingredients within the Australian poultry industry.

This database also evaluated the variation within feed ingredients for both Australian and global nutrient specifications and identified areas which require further study.

Initially, Australian poultry nutritionists were surveyed to identify the most common feed ingredients and key nutrients for consideration in the database.

Within this survey, it was identified that information on digestible protein, digestible calcium and fibre – all fractions – were rated as important by all nine nutritionists surveyed, as there is presently a lack of data for these specifications.

Features

Data were sourced and compiled from a total of 12 company databases and further data were sourced from journal articles and published open-access databases.

Data were collected for 42 ingredients with 102 nutrient specifications per ingredient, where all data were available.

The majority of data is recent, from within the past five years, with the exception of some older data where information was lacking.

The mean value, sample number and standard deviation were collected for each nutrient specification.

From these data, the overall mean, total sample number and average standard deviation reported was calculated for both Australian data and global data.

The sample size required to predict the mean value for each nutrient specification to 90 and 95 percent accuracy was also calculated.

The sample size required for an accurate estimation of the mean of a population was determined from the standard deviation from the dataset – the 'sub population' – N = (Z*SD/E)2.

Where N is the sample size, Z or Z-score = 1.96, SD is standard deviation, which is the average calculated from the dataset, and E the margin of error is calculated as +/– 5 and 10 percentage units.

For example, if dry matter = 884 g/kg = 88.4 percent, a margin of error of one percentage unit is equal to 0.884.

The database has been published online and may be accessed in PDF at agrifutures.com.au/product/database-of-the-nutrient-content-of-australian-

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Development of a database on the nutrient content of Australian feed ingredients

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feed- ingredients/

And in Excel format at extensionaus.com.au/chickenmeatrde/feed-database/

Variability within the database

Unsurprisingly, within the database there are substantially more global samples than Australian samples, and the number of samples for some Australian ingredients is quite low.

For example, Figures 1 and 2 show the mean crude protein and mean number of samples reported within the database for each ingredient in the database containing crude protein.

However, the standard deviation of Australian samples in remarkably high in comparison to global samples – see Figure 3.

This brings attention to the challenge our vast continent brings, with a wide variation of environments, climates, growing methods, cultivars, and such, all attributing to this variation.

Thus, despite being a relatively small industry on the world stage, the Australian poultry industry must exert particular effort to enhance its sample numbers to ensure accuracy of our recent Australian data.

Dietary fibre or true fibre is gaining attention, as crude fibre and other definitions can mean that as much as 24 percent of the dietary components in ingredients such as soybean meal are unaccounted for during formulation.

Additionally, the survey of integrated poultry nutritionists revealed that non-starch polysaccharide data was rated as important because there is a lack of data available.

Thus, developing a database of NSP content of feed ingredients is of importance.

However, NSPs are notoriously laborious and time consuming to analyse via wet chemistry, owing to their lack of characterisation.

In recent years, more efforts have been expended to develop our knowledge of NSP content such as the Poultry Hub NSP data, which has been incorporated into the Australian Feed Ingredient Database.

The need to characterise NSP is quite evident, as the composition of NSP differs greatly between ingredients – see Figure 4.

The sample size required to predict the mean value for each nutrient specification to 90 and 95 percent accuracy was calculated and presented within the database.

From these calculations, it is evident that many of the feed ingredients lack enough data to predict the mean with a high level of confidence.

For example, looking at the crude protein content of wheat, it is evident that the number of Australian samples (n = 370) was inadequate, as 706 Australian samples are required to determine the mean protein content of wheat to 95 percent accuracy.

When calculated for global data, it was determined that 2177 samples were required, which is well below the actual sample number within the database (n = 37,874) and thus we can be confident that this figure is reliable.

Overall, only 13 percent of the Australian data compiled meets the sample number required to accurately predict the mean value within 90 percent accuracy, compared to 40 percent of global data within 90 percent accuracy of predicting the true mean.

Recommendations

The importance of a thorough understanding of the mean and variation or 'spread' of data for industry practice has been demonstrated.

Greater focus on determining the nutritive value of feed ingredients is required to have more reliable estimates for the mean nutrient content of recent Australian data, as Australian feed ingredients appear to experience almost as much variation as global data.

However, many sources do not present the number of samples or standard deviation.

Thus, the quality of data could be vastly improved by simply reinforcing the importance of this information for industry practice.

Thus, there are two key recommendations from this project:

- To increase the amount of recent Australian nutrient content data – including the standard deviation, not only the mean and number of samples
- To improve our sampling methodology practices in industry and research to ensure an accurate representation of the nutrient content and variability within Australian feed ingredients.

Acknowledgements

We would like to thank AgriFutures Chicken Meat for funding this project and acknowledge support from the following companies in providing their data for inclusion and publication within the database – Adisseo, Ajinomoto, Cootamundra Oil Seeds, DuPont, Evonik, Poultry Hub, Novus, Premier Nutrition and RCI – and the following open access sources that were also included – Feed Grain Partnership, Brazilian Tables, Feedipedia and INRA.

Dr Amy F Moss and Anna Nguyen
University of New England Armidale NSW

Dr Amy F Moss.

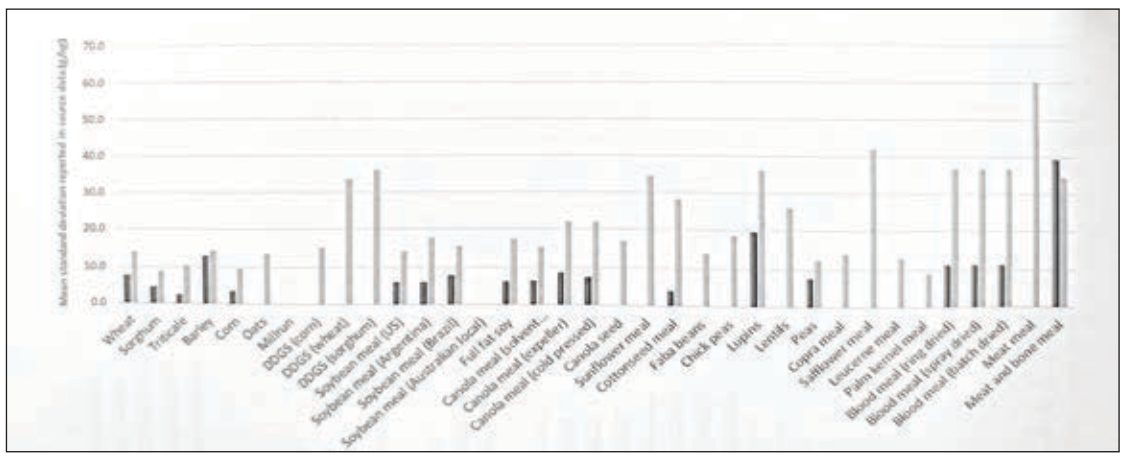

Figure 3. Mean standard deviation reported in source data (g/kg) of 35 feed ingredients for Australian (dark grey) and global (light grey) data.

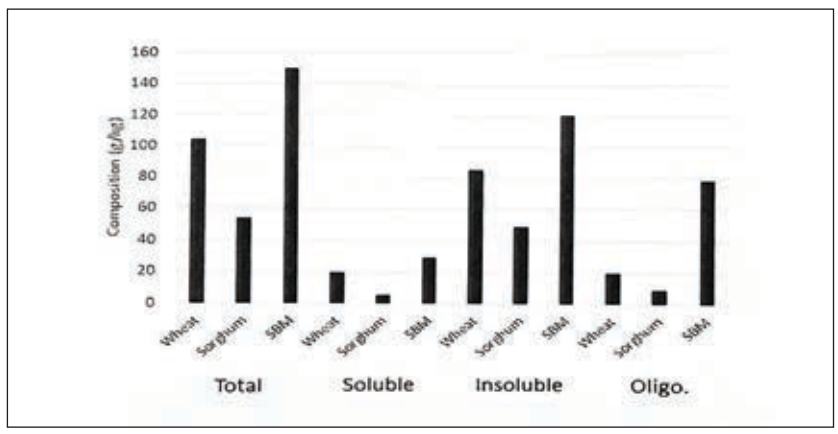

Figure 4. Composition (g/kg) of total NSP (non-starch polysaccharide – Total), soluble NSP (Soluble), insoluble NSP (Insoluble) and oligosaccharides (Oligo.) of three common Australian feed ingredients.

Avian influenza virus under control in Japan's domestic birds.

Japan declares AI outbreak end

TWO key markets have reopened to Japanese poultry exports following an official declaration that highly pathogenic avian influenza virus is under control in the nation's domestic birds.

Following the country's recent official declaration of freedom from highly pathogenic avian influenza, poultry exports from all parts of Japan can now resume.

This lifting of restrictions covers trade of chicken and eggs to Hong Kong and Singapore.

This resumption of trade is important to the nation's poultry sector.

In June, Japanese veterinary authorities officially declared the HPAI situation "resolved."

Declarations were made to the World Organisation for Animal Health.

Since November 2021, a total of 25 HPAI outbreaks in poultry were confirmed in Japan.

Apart from one outbreak at a zoo, all cases were detected on poultry farms.

In two of the early outbreaks, the H5N8 HPAI virus serotype was detected.

Birds tested positive for the H5N1 virus variant at the other 23 locations.

In flocks each comprising between 400 and 170,000 birds, a total of 1.89 million poultry were directly impacted by these HPAI outbreaks in Japan over the 2021-2022 winter.

Most recent cases were confirmed in mid-May.

Widespread outbreaks reported

Between February 1 and June 8, the H5N1 HPAI virus was detected in 17 village poultry flocks across Vietnam.

According to the latest WOAH notification, these outbreaks occurred in 11 provinces in six of the country's eight regions.

Each affected flock ranged from 1400 to and 4300 birds.

Since this disease series began in October of last year, 26 outbreaks have been confirmed to WOAH.

These have involved a total of almost 43,000 poultry, of which around 13,700 birds died.

In the Philippines, the H5N1 HPAI virus was first detected in January of this year, according to official notifications to WOAH.

Reporting the most cases is the northernmost main island of Luzon.

Here, the number of confirmed outbreaks has reached 84, directly impacting more than 280,000 poultry.

The latest 33 outbreaks reported started between March 30 and June 7.

Affected were poultry on 13 farms and in 20 backyard flocks – a total of 119,000 birds – in six different provinces.

Meanwhile, a further four outbreaks have been confirmed on the island of Mindanao between March 30 and May 4.

Involving a total of slightly over 2000 poultry, two outbreaks were on farms, and one each in a backyard and a village flock in three different provinces.

Now comprising 20 outbreaks, this disease series on Mindanao has directly impacted around 15,100 poultry so far.

Benefits of eating egg yolks

THERE'S a lot to love about incorporating egg yolks.

Consuming eggs as part of your regular diet means you may be getting adequate protein, which assists in repairing and potentially developing muscles.

Additionally, eggs may help with overall body health – such as weight loss and lowering inflammation levels.

While eggs as a whole can be great, the egg white and egg yolk can have different effects.

Wall Street Journal best-selling author of 'The Family Immunity Cookbook' Toby Amidor looks at some of the benefits of separating the egg yolk from the egg white.

Eye health

"Egg yolks contain the phytochemical lutein, which is also what gives the yolk that gorgeous yellow hue," Ms Amidor said.

Lutein has been linked with eye health.

Specifically, lutein has been connected to preventing macular degeneration – the cause of vision loss, which may occur with aging.

Muscle-building protein

"The yolk contains almost half the protein in the entire egg," Ms Amidor said.

Generally speaking, a whole egg is rich with nearly 13 percent protein, so if you're eating one extra-large egg that consists of 7g of protein, three of those grams would belong to the egg yolk.

"Protein helps with a variety of functions, including building muscles, so don't toss those golden yolks," she said.

Heart health

Ms Amidor suggests that the yolk also provides omega-3 fats, which have been shown to help promote heart health and reduce the risk of dying from heart disease.

Certain omega-3 fats have also been linked to potentially killing cancer cells and may help with arthritis.

Bone health

"The egg yolk is one of the only food sources of vitamin D."

"Vitamin D helps calcium get absorbed and both help keep your bones healthy," Ms Amidor said.

She further suggests that it is important for both children and adults to get enough of this nutrient to prevent the risk of bone diseases.

This includes rickets in children and osteoporosis in adults.

"In addition, vitamin D is one of the under-consumer nutrients in every population as per the 2020-2025 dietary guidelines for Americans," she said.

Egg yolks have many benefits. Photo: Oliver Zenglein

Business and responsible sourcing

AUSTRALIANS want to know if the businesses they engage with operate in ways that align with their values.

And, we know Australians care about farm animal welfare and want to support responsibly sourced animal-based products.

We've seen this in the uptake of cage-free eggs in response to awareness about layer hen welfare and an opposition to barren battery cages.

One thing is for certain – Australians understand that animals are farmed for food, but they also believe farm animals deserve a good life and a humane death.

Their expectation is that good businesses believe this too.

Forward-thinking businesses are recognising how important it is to reflect these values, both to maintain community support and remain viable.

This informal but crucial public acceptance is known as having a 'social licence' to operate.

For animal-based industries and businesses that source from them, it's becoming more important to consider and improve animal welfare in order to maintain their social licence.

In response, many have made the shift to better practices – such as companies across Australia who have or are transitioning to cage-free eggs.

The good news is that there is a great deal individual businesses can do to source responsibly and maintain their social licence with welfare-conscious consumers.

To responsibly source animal-based products, it's vital businesses have proactive relationships with suppliers.

Sourcing responsibly

To responsibly source animal-based products, it's vital that businesses have proactive relationships with their suppliers to enable them to go right back to the source and engage directly on animal management practices.

From this position, businesses are well placed to thoroughly review their supply chains to understand any current animal welfare issues and how these can be addressed.

The RSPCA has developed responsible sourcing guides for key species, which provide businesses with a step-by-step process for exactly this.

Once a business has a good understanding of its supply chain, it will be better able to set meaningful and achievable goals to improve animal welfare across a range of species.

As part of the RSPCA's responsible sourcing guides, short and long-term goals applicable to the current Australian market and production are available for businesses to use when planning next steps.

Most importantly, businesses that are responsibly sourcing animal-based products should publish a public-facing animal welfare policy.

The policy should clearly identify who is responsible for animal welfare within the company, articulate how the policy is governed and, based on the outcome of the supply chain analysis, outline goals for improving animal welfare.

The RSPCA's guide on developing an animal welfare policy is a three-page document that every business employee working on improving animal welfare across the supply chain should have at hand.

Not part of the procurement process but wanting to help source responsibly?

You can still help to encourage businesses to source responsibly, even if you're not part of the procurement process.

As an example, you might be looking to ensure your workplace is doing their part to incorporate animal welfare standards in their operations.

Consider sharing the RSPCA's responsible sourcing guides with your business procurement team or starting the conversation with colleagues about developing formal animal welfare policy.

Suggestions such as switching to higher welfare alternatives – RSPCA Approved products – in office kitchen supplies and event or company catering are easy ways to start sourcing responsibly.

If you're an individual who cares about animal welfare, you can also ask companies that you purchase from about their supply chains.

If they don't have a clear animal welfare policy, sharing the RSPCA's responsible sourcing guides with them not only provides them with clear information to better their business for animals but sends a strong message that animal welfare is important to their customers – and therefore should be important to them.

Lastly, the guides are for consumers too!

You can use them as a tool to ask informed questions of your favourite companies and brands.

No matter our role in the supply chain, we can all play a part in ensuring that businesses source animal-based products responsibly.

With the right tools, businesses can improve operations and enhance their social standing, consumers can make informed choices from companies they trust – both contributing to the shared goal of a good quality of life for animals.

Despite disruptions to the industry's supply chain, egg producers advise there are plenty of eggs for Australian consumers. Photo: Morgane Perraud

Egg shortage

IS there or is there not a shortage of eggs in Australia currently?

From media reports and consumer imagery, there is.

Though farmers advise there isn't.

Despite disruptions to the industry's supply chain, egg producers advise there are plenty of eggs for Australian consumers.

Australian Eggs managing director Rowan McMonnies said there was no cause for alarm, in response to consumer concern and photos of empty supermarket shelves on social media.

"An empty shelf can be a dramatic image but next to the thousands of other full ones, it's a lot less concerning," Mr McMonnies said.

With some disruption to the egg industry's supply chain due to economic pressure, there was no imbalance between supply and demand.

"Egg farmers are feeling this as much as other food producers, with the price of feed, power and transport up significantly in a short period."

"This can be disruptive as they need to move their egg supply to products, segments and customers that are able to cover as much of this increase as possible.

"However, consumers can have confidence that if eggs can't be found at one store, they will be at another," Mr McMonnies said.

A spokesperson for Woolworths said: "The market-wide supply of locally produced eggs has recently been impacted by reduced production on a number of farms."

A Coles representative said their particular supermarket was experiencing a temporarily reduced availability in its egg range due to production challenges and was working hard to restock as quickly as possible.

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NATIONAL Poultry NEWSPAPER

Ben Collins
Managing Editor
BBus DipBusMan GradDipEd

Phone: 07 3286 1833
Mobile: 0439 708 602
Email: ben@collins.media

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M.ScAg AARNe
TECHNICAL MANAGER

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E n.schwerin@becfeed.com.au
W becfeedsolutions.com.au

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Peter Cransberg
BAgrSc
SALES REPRESENTATIVE

M +61 439 605 339
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How intestinal worms impact free range farms

Vet's View

by ROD JENNER

FREE range production has many positive benefits – unfortunately exposure to internal parasites is not one of them.

Here we discuss one of the challenges facing free range layer farming – intestinal worms.

To understand them better, we need to know more about them – their lifecycle, their hosts, their impacts, and how best to control them.

There are four major types of intestinal worms found in poultry – roundworms, hairworms, caecal worms and tapeworms.

Roundworms

Ascaridia galli are the most commonly seen intestinal worm.

They are white, up to 5cm long and may be visible in droppings in heavy infestations.

A severe infestation can cause a reduction in nutrient absorption, intestinal blockage and death.

Occasionally, they migrate up a hen's reproductive tract from the cloaca and become encased in a developing egg.

This is a seriously unwanted consequence of heavy infestations.

The lifecycle of roundworms is direct – eggs are expelled in the hens' droppings and are directly infective if eaten.

The eggs can survive in the environment for long periods, so are difficult to eradicate once an infection is established in a free-range system.

Hairworms

Capillaria are much smaller – hair-like – and are barely visible with the naked eye, but can cause significant damage even in only moderate infestations.

There are two main species – one lives in the crop and the other in the small intestine.

Caecal worms

Heterakis gallinarum spend most of their time in the caecae.

Caecal worms are generally harmless but can be the intermediary host of another parasite, histomonas meleagridis – the cause of blackhead disease.

So, though chickens are generally not impacted by caecal worms, controlling the worms is still important for blackhead control.

Tapeworms

There are several species of tapeworm that are found in poultry.

Tapeworms require an intermediate host to complete their life cycle.

These intermediate hosts include ants, beetles, houseflies, slugs, snails, earthworms and termites.

They spend most of their life in the intestines and generally cause little impact on performance, unless the worm burden physically occludes the intestine.

There is now an approved treatment against tapeworms, so controlling the intermediate hosts of tapeworms has become much easier.

The impacts of worm infestations

Some impacts of an infestation of worms include reduced vitality, poor body weight gain leading to unevenness or stunted birds, reduced egg production and egg size, a decrease in shell strength, reduced yolk colour and increased cannibalism through vent pecking due to straining.

Affected birds may be dull and show pale combs.

And death, in very heavy infestations.

Treatment options

There are now three anthelmintics, or drugs for intestinal worm control, currently registered for use in Australia – piperazine, levamisole and flubendazole.

Each of these is suitable for use in laying birds with no withholding period for eggs, while levamisole and flubendazole have a seven-day withholding period for meat.

There are some fundamental differences between these three chemicals.

Piperazine only has activity against roundworms, not against hairworms, caecal worms or tapeworms.

Levamisole on the other hand is effective against round, caecal and hair worms.

Flubendazole has efficacy against all four types of worms.

It is wise to rotate between the three types of anthelmintics to reduce the risk of resistance development.

There are no products registered for the control of blackhead, so it becomes even more important to control its intermediate host, the caecal worm.

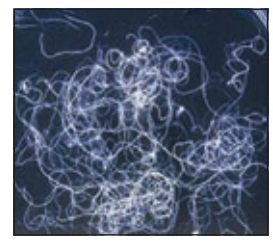
Effective control of intestinal parasites is aimed at breaking the cycle of infection.

Strategic use of anthelmintics during rearing will help to reduce the challenge, and giving a prophylactic treatment before moving hens from rearing to production sheds will assist in breaking the infection cycle.

But this needs to be combined with other good management practices, such as limiting stock density on the range, rotation of the range, good drainage and the removal of heavily contaminated soil around the shed before new pullets arrive.

Tapeworm.

Roundworms.



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