

Reflections on avian flu response

THIS year, many believe wisdom, transformation and calmness are the keys to success for 2025.

For those directly involved in the avian influenza response, these qualities have been tested more than ever.

We draw on past experiences to improve our approach, continuously adapt as an industry and maintain composure under pressure.

The frequency of avian influenza outbreaks has increased compared to previous decades, with one response in 2024, followed by the current event.

From my perspective, the speed at which the response has unfolded is striking.

As soon as a strain is typed, the government engages with industry, and we promptly inform our members as soon as is possible.

A major significant improvement over the past few years has been the proactive planning by farms, particularly regarding disposal sites and materials.

Having structured plans in place not only accelerates the response but also reduces uncertainty in the process.

Thanks to farm owners, vets and staff who have facilitated this process.

A special thank you to Rowan for stepping into the Liaison Livestock Industry role and to Dr Peter Scott for his support as the technical consultant – this mirrors the strong col-



laboration we had in 2020, when I was assisted in the LLI role by Peter.

Appreciation also goes to Victoria director Meg Parkinson for her assistance and to Kelly at Australian Eggs, who has managed numerous media inquiries with professionalism.

Board directors quickly completed confidentiality deeds and returned them to me the same night the news broke, ensuring a swift and coordinated response.

Additionally, the new process of including our industry hatchery helped the company to plan deliveries, which proved effective.

It is always heartening to see the number of members reaching out to those affected, offering support through calls and emails.

This strong sense of community remains a defining strength of our industry.

A key aspect of this response has been increased engagement with government officials from both sides of politics.

Their willingness to understand the challenges we face is en-

couraging, especially as the implementation of the poultry standards and guidelines remains a critical decision for agriculture ministers in various states.

Ensuring that all production systems can meet consumer demand will be vital moving forward.

Through each challenge, our industry continues to learn, evolve and strengthen its resilience.

Wisdom, transformation and calmness remain essential as we navigate these complexities together.

Thanks everyone for your support as we work to support you.



The current avian influenza response draws on past experiences.



Eugeni Roura and the author with Francisca Diaz-Aviles, winner of the Mingan Choct Award for APSS 2025.

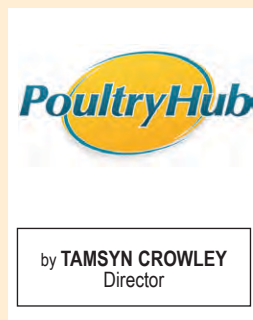
Australian Poultry Science Symposium 2025

ATTENDING the Australian Poultry Science Symposium 2025 was a valuable experience, the event offering an opportunity to engage with colleagues, exchange ideas and explore the latest developments in poultry science.

Held in Sydney in February, the symposium gathered industry leaders, researchers and students from around the world to discuss advancements and challenges in the field.

One of the most rewarding aspects of the conference was reconnecting with familiar colleagues and making new acquaintances.

The discussions throughout the event



provided useful insights and a chance to reflect on the progress made in poultry science over the past 12 months.

The atmosphere was collaborative, with attendees sharing perspectives on key industry issues and future directions.

A notable moment was presenting the Mingan Choct Award to Francisca Diaz-

who appreciate its impact.

Beyond the formal sessions, the informal interactions during coffee breaks, networking events and between presentations were equally valuable.

The poster session was particularly engaging, showcasing a wide range of research topics and encouraging detailed discussions.

It was encouraging to see emerging scientists present their work and receive constructive feedback from the broader research community.

The conference dinner provided a relaxed setting to connect with colleagues on a

continued P2



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Poultry Industry Calendar of Events

2025

APR 7-9 – Western Poultry Disease Conference, Calgary, Canada. www.wpdcfoundation.org/wpdc-2025

MAY 14-16 – VIV Turkey, Istanbul, Turkey. www.vivturkey.com

JUN 23-26 – 24th European Symposium on Poultry Nutrition, Maastricht, Netherlands. www.espn2025.eu

JUN 24-26 – 11th International Symposium on Avian Influenza, Newfoundland, Canada. harlowagency.swoogo.com/isai2025/6355095

AUG 18-22 – 15th International Seminar on Poultry Pathology and Production, Georgia USA.

SEP 14-17 – 20th European Symposium on the Quality of Eggs and Egg Products and the 26th European Symposium on the Quality of Poultry Meat, Zadar, Croatia. eggmeat2025.com

OCT 6-10 – 23rd WVPA Congress Kuching, Malaysia. www.wvpac2025.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

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Increase of chicken in Australian diets

CHICKEN meat has become a beloved staple in Australian households, with the average Australian consuming approximately 50kg per year, equating to about two chicken-based meals per week.

However, the history of this popular protein is not commonly known.

Historically, chicken meat was one of the most expensive proteins in the Australian market.

Chickens were primarily kept for their eggs, with spent hens or cockerels processed for meat.

It was common for Australian households to consume chicken meat only a few times a year, usually reserved for special occasions and holidays.

It wasn't until the modern broiler chicken became widely commercialised in the 1960s, that Australia experienced a significant increase in chicken meat production and consumption.

This surge was driven by emulating successful production models seen in the US, such as

sourcing world-leading genetics, integrating breeding, hatchery, processing and feed mill operations, and continuously investing in improvements in feed and processing practices.

By late 2006, chicken had overtaken beef as Australia's favourite meat, offering a wider product range than ever before.

Today, chicken is recognised as one of the most cost-effective, versatile and nutrient-rich protein sources, with industry experiencing an annual growth rate of about 3-4 percent.

Its popularity among consumers aligns with market and demographic shifts in Australia, with a growing preference for convenient and affordable dining options, while demanding greater variety in meal choices.

Australians spend \$8 billion annually on chicken meat at the retail level, with pre-roasted chickens – commonly referred to as 'cooked chook' or 'a bachelor's handbag' – being among the most popular grocery items

in supermarkets nationwide.

Recently, this beloved grocery staple garnered further media attention due to viral TikTok influencer James Ellis committing to eat a cooked chook every day for a year.

In terms of consumption, it is estimated that Australians consume about 1.3 percent of the 103.5 million metric tonnes of chicken meat produced globally each year.

On a per capita basis, these are world-leading consumption rates.

To provide further perspective, pork is the second most consumed animal meat protein,

yet Australians eat almost twice as much chicken as pork.

This strong demand for chicken meat is met with a commitment of responsible production.

The industry continues to improve farming practices and resource efficiency, ensuring high consumption levels align with strong animal welfare and sustainable practices.

Looking ahead, the Australian chicken meat industry is poised to continue supporting the Australian public by meeting production demand for a quality and nutrient-dense household favourite.

Research and development efforts aimed at improving sustainability, productivity and animal welfare standards are continuously under innovation and support by the industry's Research and Development Corporation and other initiatives.

Needless to say, the history of the Australian chicken meat industry is impressive and, most importantly, has served the evolving food needs of the domestic consumer.

You can read more about the history of the Australian chicken meat industry by visiting chicken.org.au/our-industry/history  **ACMF**



Australians spend \$8 billion annually on chicken meat at the retail level. Photo: Askar Abayev

APSS 2025 wrap up

from P1 more personal level.

Conversations ranged from research developments to broader industry trends, making for an enjoyable and insightful evening.

During the night, the Australian Poultry Award was awarded to a very deserving person, Peter Selle.

He shared his poultry science journey and took time to thank those who have supported him over the years, including his lovely wife.

Events such as these help reinforce the sense of community within the field and provide a space to reflect on the symposium's key themes.

The keynote presentations covered important topics such as sustainable feed solutions and disease management, offering thought-provoking insights into the challenges and opportunities facing the industry.

These discussions underscored the need for continued innovation and collaboration to address evolving issues in poultry science.

Reflecting on APSS 2025, it was a worthwhile event that facilitated knowledge sharing and professional connections.


The discussions and insights gained will certainly inform my work moving forward.

I look forward to future opportunities to build on these conversations and contribute to the ongoing advancement of the field.

Thank you to the organisers and participants for making APSS 2025 a productive and engaging experience.

Lastly, we would like to announce the launch of our new master course in poultry nutrition.

This master short course is designed for the allied poultry industries and includes a series of modules covering feed ingredients, feed evaluation, animal nutrient requirements, feed formulation and how poultry feeds are formulated.

For more information, check out our website or contact us at poultryhub@une.edu.au 



Peter Selle spoke after being awarded the Australian Poultry Award at the APSS 2025 dinner.

NATIONAL Poultry
NEWSPAPER

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Current avian influenza situation in Australia

AS at February 25, 2025, H7 avian influenza had been confirmed at a fourth poultry property in northern Victoria near Euroa.

All infected properties were within the restricted area and under quarantine.

Given the close proximity to existing infected properties, the new detection was not unexpected.

Diagnostic tests confirmed a high pathogenicity strain of H7N8.

The tests were done at CSIRO's Australian Centre for Disease Preparedness in Geelong.

This is a new outbreak and not related to the 2024 outbreaks in Victoria, NSW and the ACT, which were successfully eradicated.

This is not the H5N1 bird flu strain that is impacting other parts of the world.

A restricted area with a radius of about 5km is in place around the infected properties.

This is part of a larger control area in Strathbogie Shire, east of the Goulburn Valley Freeway.

The goal is to prevent movements that could spread the virus.

Townships impacted include:

- Euroa
- Violet Town
- Longwood
- Ruffy
- Avenel
- Strathbogie.

The control and restricted areas have specific rules.

Producers located within the restricted area with 50 or more birds including poultry need to follow a housing requirement.

Any suspicion of an emergency animal disease should be immediately reported to the 24-hour EAD Hotline on 1800 675 888 or to your local vet.

Agriculture Victoria is actively working with property owners.

The first two infected properties have finished humane destruction of poultry on site.

Work is under way at the third and fourth properties.

Cases of humans in direct contact with animals infected with high pathogenicity avian influenza viruses are possible.

However, the risk to the public is low.

Movement of poultry and other birds and control measures

All movements of bird, bird products – including eggs and manure – and poultry equipment into, within or out of the declared areas are prohibited unless under a permit.

This includes collecting, processing or packaging eggs on a premises for the purpose of the eggs being moved and also applies to meat and carcasses from poultry and birds, including game birds.

Under movement restrictions for both the control area and restricted area, chicken meat and eggs can still be moved into, out of or within the area as long as they come from an approved supplier.

This includes:

- Supermarkets
- Butchers
- Grocery stores
- Other authorised food suppliers.

These products must not be fed to livestock including pigs, sheep, cattle and goats.

This does not apply to dogs and cats.

A permit is required for all other movements of chicken, meat and eggs in and out of a control area or restricted area.

A housing requirement is now in place for the restricted area only and applies to producers with 50 or more poultry.

While housing is not mandatory in the control area, or for people with fewer than 50 birds, all other movement restrictions still apply.

Exemptions are in place that allow vehicles transporting livestock and other agricultural products to travel along the Hume Fwy, so long as they don't leave the Hume Fwy in the restricted or control area.

Truck deliveries of poultry feed to poultry farms in the control area are exempt from the need for a permit.

There is no exemption for the delivery of poultry feed to poultry farms in the restricted area.

There are no restrictions on the movement of stock feed for livestock species other than poultry or birds, into, within or out of the restricted area or control area.

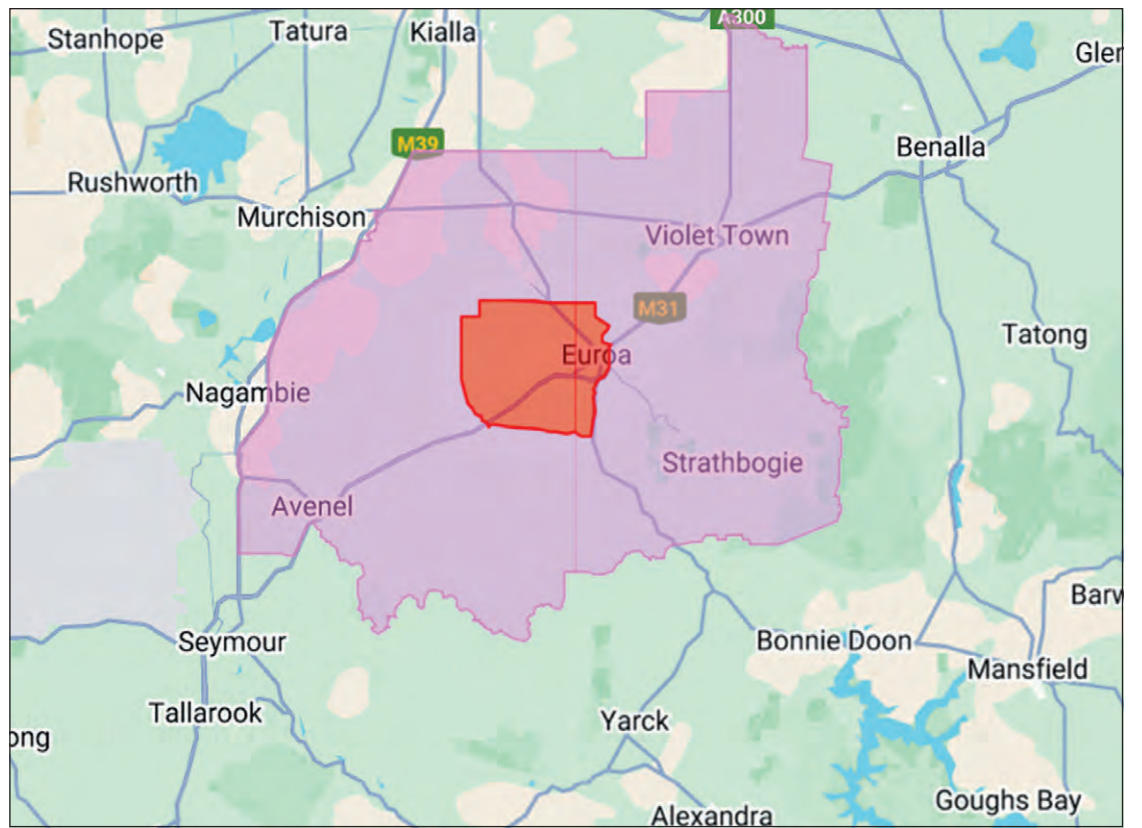
Good biosecurity practices should be followed.

Poultry shows

Poultry and bird sales, shows, markets and auctions or other gatherings within the control and restricted areas are prohibited until further notice.



Scan for avian flu in Victoria update.



Restricted and control areas. Areas shown in red are located in the restricted area. Areas shown in purple are located in the control area.

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Cage fighting continues as final round bell tolls

COMMITTED caged-egg producers sometimes preach “I told you so” when news lands of free-range farms being hit with avian influenza and forced to destock.

Such alarming news clearly reinforces, rightly or wrongly, the widely shared caged-egg community view that biosecurity will always be compromised when chickens have access to daylight and the outdoors.

I guess it’s understandable to an extent, as all caged-egg producers must phase out their ‘battery’ cages by 2036 and move on with an alternate production system, or exit the industry.

According to the RSPCA, there’s been some confusion about what this all means for egg buyers.

Hence, in its January e-newsletter, the RSPCA laid out the facts, at least as it sees them. I’m happy to share be-

Cant
Comment
by BRENDON CANT



in cage-free systems.

But it is not only retailers making moves to cage-free eggs.

For example, Grill’d Healthy Burgers has used free-range eggs since it first opened, and McDonald’s made the switch to cage-free eggs back in 2017.

Many brands that use eggs in manufacturing their products are also moving to cage-free eggs by 2025.

This means that by 2025, conscious shoppers will be able to find even more products and places serving cage-free eggs.

Right now, consumers have the power to be a real driving force for change in pushing for a faster phase out of cage eggs.

While an endorsed phase out is welcome, allowing each state the discretion to decide when and how the phase out happens, this means there is a danger of this dragging on even longer than 2036, leaving millions more hens to suffer in cages.

low the edited version of what was detailed.

Layer hens in battery cages are unable to express natural behaviours that they have a strong motivation to do, such as perching or dust bathing, and risk chronic health conditions such as osteoporosis due to their restricted movement.

We know good layer hen welfare simply can’t be achieved in a battery cage and this is why the use of battery cages must not continue.

Many brands and producers have already seen the value in improving hen welfare by transitioning away from cage eggs.

Major retailers Aldi, Coles and Woolworths have all been working over the past decade to remove cage eggs from their shelves completely by 2025.

Aldi has been steadily working towards its commitment of eggs sold in cartons to be from cage-free hens by 2025.

Way back in 2013, Coles completed the move for all its own-brand eggs sold in cartons to be from hens in cage-free systems.

In 2019, Coles transitioned all supplier-branded eggs sold in cartons to be cage free in Western Australia and did the same in Victoria in 2022.

Coles is well on the way to completing its transition of all supplier-branded eggs sold in cartons to cage free and

has also been working on going cage free with eggs used as ingredients in its own-brand products, such as baked goods, sandwiches and sauces.

In 2013, Woolworths made the commitment for all eggs sold to transition to be from hens in cage-free systems.

By 2015, Woolworths completed the transition on its own-brand eggs sold in cartons and has been working closely with its suppliers to transition all supplier-branded eggs sold in cartons to be from cage-free hens.

Like Coles, Woolworths is also transitioning all its own-brand products where eggs are used as ingredients to be from hens



Free range versus caged. The fight continues.

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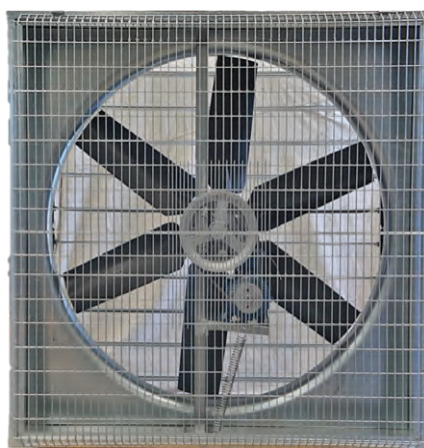
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Price and not only welfare is often a decision maker for consumers when it comes to eggs. Note however, the author took this photo a year ago. While prices today would have likely changed, the relativity is likely similar. Point made.



The author was delighted when in South Australia in 2023 to come across this very slick looking pastured hen system. Clearly, the happy hens were rotated regularly onto fresh pasture.



Wes Humpage limits chickens to 450 per hectare on his egg farm. Photo: Wes Humpage

Australia's bird flu response learnings

VICTORIAN egg farmer Wes Humpage said he was disappointed with how the avian influenza outbreak was managed in 2024 and called for change.

"The department failed to work with industry to identify the risk on each farm," Mr Humpage said.

"They just had this blanket rule and they stopped all egg movement – continue buying all your goods and pay your staff, but you're not allowed to sell your product and store it all.

"What they were asking was completely unachievable."

Mr Humpage said further consultation would have led to more sustainable solutions at a fraction of the cost.

Adding that one of

the first things the department should have done was to provide funding for high-risk farms to put in a vehicle wash for all trucks entering.

Mr Humpage limits chickens to 450 per hectare on his egg farm, and was concerned disease outbreaks in the poultry industry would become more frequent as Victoria achieved its goal to move away from caged eggs by 2036.

"Ten thousand birds per hectare is the sort of free range we're talking about – inevitably you're exposing these birds to the outside world in an uncontrolled environment and, with such high stocking density, it's really easy for disease to come through," Mr Humpage said.

"That will have ma-

terial impact on the industry and a lot of this is being brought about by shutting down these cage systems."

Yet Victorian Farmers Federation egg group president Meg Parkinson did not believe stocking density made any difference.

"What happens is people walk around paddocks, get duck droppings on their boots, don't clean their boots before they go in the shed, and that spreads the disease," Ms Parkinson said.

"It can also spread on the air, but it takes a lot longer to spread throughout the shed – that can happen in cage or free-range sheds."

Ms Parkinson said the government's response to the outbreak wasn't bad but improvements could always be made.

"I would like to see the clean-up move faster," she said.

"The longer it takes to clean up, the longer before birds can be back in their sheds – so that's the key to getting the system working as quickly as possible."

Ms Parkinson said if farmers could do the clean-up themselves, it could speed the process up and get eggs back on shelves faster.

"They do it every year, they've got the equipment or they know the contractors who have the equipment," she said.

Ms Parkinson added that the difficulty government had was being bound by a lot of regulations, which farmers don't have, therefore taking the department longer than it would the farmer to do the same job.

Financial assistance available for north Queensland floods

FINANCIAL assistance is now available to primary producers affected by high rainfall and flooding in north and far north Queensland.

Financial assistance available includes:

- Exceptional Disaster Recovery Assistance Grants, up to \$25,000
- Concessional loans up to \$250,000
- Essential working capital loans up to \$100,000

- Freight subsidies of up to \$5000

- Coordinated emergency fodder support package.

Support is available.

Information on grants and loans eligibility requirements can be found on QRIDA's website – qrida.qld.gov.au/primary-producers

Check regularly for updates on shire extensions or funding.

For the most current information related to

your circumstances contact QRIDA on 1800 623 946.

For information on freight subsidies and fodder support, visit the Business Queensland website by scanning the QR code below.

The Rural Financial Counselling Service can help you apply for government financial assistance and other rural financial counselling advice on 07 4652 5669.

A primary production industry support package has also been announced to support the sector's medium to long term recovery and help build resilience.

Support includes funding for specialised industry recovery and resilience officers, financial counsellors, wellness coaches, psy-

chologists and a specialised agronomist.

A coordinated emergency fodder support package is also available to assist with the cost of purchasing and transporting emergency fodder to primary producers in areas most impacted by the event.

Visit the Business Queensland for information on how to look after your crops, pasture, machinery and animals after a disaster.



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Have your say on sustainability claims for international markets

SHARE your views on international market requirements for proof of sustainability claims.

The Federal Department of Agriculture, Fisheries and Forestry is seeking feedback on the 'Assuring Sustainability Claims' discussion paper to help build on our research and better understand international market requirements for proof of sustainability claims.

By 'sustainability claims', we mean assertions or statements made about the practices and outcomes of agri-food and fibre production systems that aim to maintain ecosystem components and functions for future generations, addressing economic efficiency, social responsibility and environmental preservation, often without immediate evidence or proof to substantiate them.

The discussion paper is based on:

- Interviews with government, industry and supply chain stakeholders

- An analysis of material sustainability topics.

It also uses market information and the combined knowledge of the research team and the Assuring Sustainability Claims Working Group.

This consultation is seeking feedback on the 13 questions presented in the paper.

Your feedback will help DAFF identify, define and provide evidence for:

- Major international market and regulatory sustainability claims requirements (both current and emerging)

- Principles and common criteria for proving sustainability claims

- Ways to prove sustainability claims to meet international market requirements.

DAFF is seeking feedback from individuals, businesses, governments, indus-

try bodies, supply chain participants and regulators, particularly encouraging responses from supply chain participants in major export markets for Australian food and fibre products.

To share your knowledge and views on the discussion paper:

- Read the discussion paper

- Take the survey to answer the paper's questions or to upload a submission.

Submissions will close at 5pm (AEDT) on Monday February 24, 2025.

For more information, visit haveyour say.agriculture.gov.au/sustainability-claims or scan the QR code below.



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Drive change with a 2026 Nuffield scholarship

NUFFIELD Australia has opened applications for its 2026 scholarships, calling on the next crop of Australian agriculturalists to be curious, drive change and help their industry thrive.

Farmers and those working in the agriculture industry are encouraged to seize the once-in-a-lifetime opportunity by applying for a scholarship for 15 weeks of overseas study.

Nuffield Australia chief executive officer and 2013 Nuffield scholar Jodie Redcliffe said Nuffield scholarships were recognised as the pinnacle of industry-based, experiential learning for primary producers.

"Scholars have a

unique opportunity to visit, learn from and collaborate with not only other scholars but with agribusiness leaders around the world," Ms Redcliffe said.

"By fostering a culture of curiosity and excellence, we challenge scholars to step beyond their comfort zones, exploring groundbreaking ideas and solutions that can reshape Australian agriculture.

"The journey is transformative – offering life-changing experiences that empower individuals to lead with focus.

"From paddocks to boardrooms, Nuffield scholars ensure Australian agriculture will thrive in a changing world," she said.

The organisation awards around 20 scholarships each year, enabling the sharing of knowledge that creates a sustainable and profitable food and fibre industry.

Some of these scholarships target specific agricultural industries, while others are open to a wider range.

Nuffield Australia, which this year celebrates its seventy-fifth year of scholarships, will again offer up to five drought resilience-specific scholarships, supported by the Australian Government's Future Drought Fund.

Soon-to-be-released research commissioned by Nuffield Australia shows its alumni overwhelming-

ly say their scholarship was an incredibly rich and diverse experience, which had a profound impact on their life.

Claire Catford from Hoyleton in South Australia was awarded a scholarship last year.

"The most wonderful and surprising thing has been the welcoming and supportive network that opens up when you're awarded the scholarship," Ms Catford said.

She said initially it was a daunting prospect, "Going outside your comfort zone is where amazing things happen and I'm seeing that clearly already.

"In planning my travels, I've been astounded at the opportunities

continued P7

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No more blockages for western Sydney meatworks after Gorman-Rupp pump upgrade

HYDRO Innovations were approached by Western Sydney Meat Worx and SJ Plumbing Industries to provide a pump solution to replace the existing submersible pump operating in the abattoir's wastewater (green and red lines) collection pit.

The problem

The existing submersible pump was continually blocking due to the large quantities of paunch, stomach linings, grit and other foreign materials ending up in the pit.

As a result of these blockages, constant vigilance of the submersible pump was required to ensure its continuous operation.

With each blockage and stoppage, the submersible pump was lifted from the pit, the impeller/suction end dismantled to remove the offending material, reassembled and returned to operation – an often lengthy, messy and difficult exercise.

The solution

Hydro Innovations NSW regional manager Phil Rothheudt attended the site and quickly realised this was a perfect situation for a Gorman Rupp self-priming pump.

The Gorman Rupp self-priming pump would sit at the surface of the pit, not submersed, where instant safe access to the pump's internals and the blockage would be available to the operators and, due to the easy access, regular service and maintenance are also simplified, carried out at the surface.

As the Gorman Rupp self-priming pump requires no foot valve (to block or leak), an open suction pipe into the liquid is all that's required – the result is a very easy pump to install, operate and maintain.

Mr Rothheudt also recommended the pump be fitted with the Gorman Rupp Eradicator Solids Management System – to deal with the often-stringy intestines, tough gut linings, undigested hay or any material that might find its way into the pump that could result in blocking, jamming or wrapping around the impeller.

Gorman Rupp self-priming pumps fitted with the eradicator system have been deployed in many abattoir sites and municipal sewerage treatment plants around Australia with excellent results.

The abattoir decided to proceed with the purchase of a Gorman Rupp Super T3C60SC-B fitted with the solids management system.

The results

The result was almost instant.

Within a day of operation, the waste material that had built-up in and around the pit was steadily being pumped to the separator screen.

In fact, the initial start-up was so successful that an excavator was deployed to get down in to dig and loosen the heavy settled material in the bottom of the well, mixing it with the incoming flow, the pump then sending the mixture to the separator screen.

If the pump ever did block or jam, it was simple to open the suction-end inspection cover, remove the offending blockage and the operators were quickly able to get back to work.

For further information regarding the extensive range of Gorman Rupp self-priming pumps and the services that Hydro Innovations can offer to remedy your wastewater, sewerage, aeration and pump issues, visit the very informative website at hydroinnovations.com or phone 02 9898 1800.



Within a day of operation, the Gorman Rupp Super T3C60SC-B, fitted with the solids management system, had waste material pumping steadily to the separator screen.

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- Does not require multiple personnel to maintain.

Drive change with a 2026 Nuffield scholarship

from P6 that've opened because of the Nuffield network.

"I can only imagine where this is all going to lead over the next 12 to 18 months, and no doubt beyond that time as well.

"I urge anyone who's on the fence about applying to just go for it – there's never a perfect time for these things but taking the leap could help you discover something you might never have imagined."

Nuffield Australia encourages applications for research

topics relevant to any or all industries in the Australian agricultural sector.

Applications close on Friday May 16, 2025.

Shortlisted applicants will be interviewed during June, with a final round of interviews in July.

Successful recipients will be announced at the Nuffield Australia National Conference in Adelaide from September 8-10, 2025.

Find out more at nuffield.com.au/how-to-apply

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APSS 2025 conference photos

February 10 – 12, 2025
The University of Sydney Business School

A dynamic range of speakers and guests attended the APSS conference in February 2025.



PRF president Lisa Jamieson welcomed the audience and thanked sponsors.



Some of the Australian Poultry Science Symposium 2025 sponsors and supporting organisations.



Pro Vice-Chancellor (Global and Research Engagement), Professor Kathy Belov opened the symposium.



Dr Samiullah Khan from the University of Adelaide.



Dr Jose Quinteros from the University of Sydney.



Dr Peta Taylor from the University of Melbourne.



Dr Frank Wong from the CSIRO, Centre for Disease Preparedness.



Session breaks and meals provided the opportunity to catch up with colleagues old and new.



APSS 2025 conference photos

February 10 – 12, 2025
The University of Sydney Business School

A dynamic range of speakers and guests attended the APSS conference in February 2025.



Why humans kill animals - Part 3

■ The next three of the ten reasons

KILLING animals has been a ubiquitous human behaviour throughout history, yet it is becoming increasingly controversial and criticised in some parts of contemporary human society.

Over a four-part series, researchers from around the globe review 10 primary reasons why humans kill animals, discuss the necessity or not of these forms of killing and describe the global ecological context for human killing of animals.

The article can be viewed in its entirety at sciencedirect.com/science/article/pii/S0048969723039062

Humans historically and currently kill animals either directly or indirectly for the following reasons:

- Wild harvest or food acquisition
- Human health and safety
- Agriculture and aquaculture
- Urbanisation and industrialisation
- Invasive, overabundant or nuisance wildlife control
- Threatened species conservation
- Recreation, sport or entertainment
- Mercy or compassion
- Cultural and religious practice
- Research, education and testing.

Last month we looked at the first two of the 10 reasons humans historically kill animals.

The next three of those reasons are discussed here.

3. Agriculture and aquaculture

Agriculture and aquaculture are associated with the most globally prevalent forms of animal killing.

Agriculture has been practiced by humans for at least 11,000 years and enabled humans to establish themselves as the dominant vertebrate on Earth.

Agriculture includes the production and protection of both plants and animals in both small (that is subsistence farming) and large (that is commercial farming) quantities.

Agriculture and aquaculture are forms of optimal foraging behaviour, whereby animals and humans obtain food resources in ways that minimise risk and optimise energy expenditure.

These practices are also analogous to caching behaviour or food

storage given that a live animal can convert biomass inedible to humans into edible protein that can be consumed later at times of seasonal shortage of other plant-based foods.

Humans farm and kill a wide variety of mammals (domestic cattle, sheep, goats and pigs), birds (for example domestic chickens, ducks, geese, turkeys, pigeons and ostriches), fish (such as Atlantic salmon, common carp and bluefin tuna) and other animals (prawns, oysters or turtles) for their meat.

Animals are also farmed and killed for other reasons, such as obtaining milk and eggs (for example killing male dairy cattle or male egg-breed chickens) or feathers, fur, skins or leather (ostriches, crocodilians or American mink).

Beyond the direct killing and use of farmed animals for food or fibre, wild predators and competitors of farmed animals and plants negatively affect the production of farmed species in many cases and are also intentionally killed to mitigate the agricultural production losses they would otherwise cause.

Examples include the killing of canids, felids or mustelids to mitigate their predation on farmed animals or the killing of ungulates, macropods, birds or rodents to mitigate their competition for farmed plants.

Other examples include killing infected domestic and wild animals to stem disease outbreaks that could harm and kill vast numbers of livestock and wild animals (for example biosecurity activities).

Such diseases include foot-and-mouth disease, rabies, tuberculosis, anthrax, avian influenza, African swine fever and many others.

Indirect killing occurs when non-target animals die from accidental poisoning associated with use of the drugs, pesticides and herbicides used to protect animals and plants or as bycatch in traps intended for damage-causing animals.

Though it is not often viewed as a source of animal killing, the establishment and harvesting of crops (for example land clearing and tilling) required and still requires the

direct and indirect killing and displacement of animals (that is interference competition) at enormous scales, as does the protection of crops following establishment (Fig. 2, see also reason 4).

For example, red-billed quelea are killed in their millions to protect grain crops.

Demand for soybeans and palm oil has also been a major driver of deforestation in South America and Southeast Asia, causing the displacement and death of innumerable animals through the destruction of the natural habitat they relied on.

Many but not all of such crops or their by-products might also be used for industrial non-food purposes such as biofuels or livestock feeds.

Approximately one-third of crops grown across the world also require animal manure for fertilisation, which inherently requires livestock farming to accumulate manure for later dispersal, causing consequent displacement and death of other animals.

Whether animals are killed to be eaten or worn or because almost all animals have been eliminated from land where we now grow biofuel crops or food crops for ourselves or our livestock (see also ourworldindata.org/soy), animal killing is an indisputable and unavoidable component of both the plant and animal food production systems that support human life.

Engaging in animal and plant agriculture and aquaculture in this way enables a greater amount of food to be obtained for humans than would otherwise be attainable through wild harvest (reason 1).

It is of course possible to produce livestock and crops in ways that minimise both the direct and indirect impacts on wild animal lives, but generating food on such large scales to feed a large and growing global human population is impossible without killing animals.

Killing animals for agriculture is a critical human food security endeavour, and many humans will die if humans do not kill animals to produce and protect animal-based and plant-based agriculture and aquaculture.

◀ continued P11



Poultry pathogen research to crack kinky back

A NEW CQUniversity-led research project is addressing a fast-spreading pathogen that's ruffling feathers across the Australian poultry industry.

Enterococcus cecorum is a contagious microorganism that causes severe health issues in birds.

The infection can cause compression of the spinal cord, also known as 'kinky back', leading to paralysis and mortality.

The AgriFutures Chicken Meat Program supports the study, 'The integrated investigation of enterococcus cecorum prevalence, transmission routes, predisposition factors, pathogenic mechanisms and mitigation strategies in broilers'.

Researchers from CQU's Institute for Future Farming Systems are conducting a comprehensive investigation into the preva-

lence, transmission routes, predisposing factors and pathogenic mechanisms of EC.

IFFS molecular microbiology cluster leader Professor Dana Stanley described EC as one of the fastest-growing health challenges in poultry production.

"This pathogen has serious implications for the health of birds and the profitability of the industry," Prof Stanley said.

"We're working to uncover the role of coinfection and microbial communication, how it spreads, how it causes disease and, most importantly, how we can stop it."

The research team is leveraging the most extensive dataset ever assembled on poultry microbiota by combining 165 studies.

The study will utilise artificial intelligence-assisted prediction and analysis models to thoroughly interpret

every aspect of EC outbreaks.

Professor Stanley explained that this novel approach will provide valuable insights into EC's genomic profile.

"Our work goes beyond identifying the pathogen - we're uncovering its full genomic blueprint."

"This is critical for designing interventions that are not only effective but also sustainable in the long term," she said.

"We utilise genomics, molecular typing and co-culture experiments using a continuous culture gut simulator fermentation system."

"The gut simulator allows us to test how EC behaves in the presence of other bacteria and additives like probiotics and prebiotics."

"This is vital for identifying co-infection mechanisms and designing targeted interventions."

Prof Stanley added

that the research was also focused on developing effective mitigation strategies to support the sustainability of broiler farming.

The team aims to develop a suite of solutions, including enhanced biosecurity measures, probiotics, prebiotics and phyto-gen-based interventions.

"We're committed to translating our findings into practical strategies that improve animal welfare, reduce industry losses and ensure sustainability."

"This research represents a significant step forward in combating EC."

"By understanding its behaviour and interactions at a molecular level, we can provide producers with the tools they need to protect their flocks and their jobs," Professor Stanley said.

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Why humans kill animals - next three reasons

☛ from P10

4. Urbanisation and industrialisation

Perhaps the most universal form of animal killing occurs when humans construct houses, factories, mines, power stations, roads, railways and other industries and infrastructure needed to support sedentary human populations.

In ecological terms, urbanisation might be better thought of as mass irreversible habitat destruction that has resulted in some of the highest rates of decline and local extinction of a range of fauna worldwide.

Urbanisation thus kills animals in ways similar to intensive agriculture (reason 3), which is intrinsically linked to feeding a rapidly urbanising human population.

Furthermore, because urban areas are typically situated in places that were once biodiversity hotspots, the impacts on flora and fauna are more severe for urbanisation than for most other human activities.

Urbanisation represents competition for the critical resource of space and results in the killing and expulsion of countless other ani-

mals whenever it occurs at either large or small scales.

For example, koalas are arboreal dietary specialists distributed along the entire east coast of Australia, where most of the Australian human population lives in multiple cities.

Within only a 10-year period, the national conservation status of koalas has deteriorated from being unlisted to listed as vulnerable in 2012, and then to endangered in 2022 – almost exclusively through the ongoing direct and indirect effects of urbanisation, vehicle collisions and tree clearing, or removing both the food and refuge of this iconic species.

Though far smaller in scale, the establishment of rondavels under trees in the Okavango Delta of Botswana similarly displaces the wild animals that would otherwise live there (see Fig. 2).

Thus, every living human on the planet contributes to the displacement and death of animals in this way, and/or has and is benefiting from the proceeds of such animal killing in the past (rea-

sons 1-3 and 5).

Continued animal killing through urbanisation seems inevitable so long as global human population growth remains positive and the current trend of migration towards urban nodes continues.

Directly killing medium and large-sized animals may be avoidable when construction is undertaken carefully and affected individual animals are captured and translocated.

However, the subsequent displacement and indirect forms of animal killing (for example lack of food, exposure to predation, diseases or pollutants) associated with urbanisation are largely unavoidable.

The number of animals killed in this way may be reduced to some degree when urbanisation is directed upwards and not outwards, or when water and waste are recycled sustainably.

However, increasing human populations will still place ever increasing demands on natural resources and the associated industry and infrastructure required to support sedentary populations, which are almost always permanent.

5. Invasive and overabundant native animal control

Killing exotic, non-native, extralimital or overabundant native animals is practiced widely.

However, the motivation for this type of killing is distinct from other forms of animal killing.

Animals might be killed by humans simply because they are exotic or 'not from here', but they are usually killed because their invasive characteristics and traits raise concern that they will cause subsequent issues that will require further and otherwise avoidable animal killing.

These concerns include the protection of human health and safety (reason 2), agricultural production (reason 3), threatened species protection (reason 6) or the prevention of ecosystem collapse or shifts characterised by the mass killing and loss of many local animals.

Many invasive and overabundant animals create real and perceived undesirable impacts on the environment, human economies and on social or

☛ continued P12



Indirect killing occurs when non-target animals die from accidental poisoning associated with use of the drugs, pesticides and herbicides used to protect animals and plants or as bycatch in traps intended for damage-causing animals. Photo: Emerson Beghini



Within only a 10-year period, the national conservation status of koalas has deteriorated from being unlisted to listed as vulnerable in 2012, and then to endangered in 2022, which is intrinsically linked to feeding and housing a rapidly urbanising population. Photo: Klub Boks

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Why humans kill animals - Part 3

from P11
cultural values.

These impacts include the harm, killing and death of relatively large numbers of other animals that could otherwise be alleviated and avoided by killing relatively small numbers of invasive and overabundant native animals.

Killing invasive animals typically aims to prevent, for example, any potential negative impacts on agriculture, native species, wilderness areas or human health.

Directly and indirectly, killing invasive and species may be avoidable, but doing so will often yield unavoidable adverse consequences for both humans and animals.

Though it may sometimes be possible to undertake invasive animal control in ostensibly non-lethal ways, such as trap-neuter-release or translocation, these practices are often ineffective and typically cause greater harm to animals than simply killing them.

Attempted 'non-

lethal' exclusion of invasive animals by creating landscapes of fear can create serious animal welfare issues, in addition to indirect killing.

So, while restoring ecosystems through restoration of native carnivores and herbivores might 'naturally' eliminate invasive and overabundant animals, this does not evade animal killing given subsequent predation and competition – it merely outsources animal killing from humans to animals or other ecological processes (for example predation, starvation, disease).

Sometimes it is simply impossible to remove all invading animals without killing at least some of them.

Humans do not need to kill or exclude invasive or overabundant animals like they need to eat or protect themselves (see reasons 1-3), but past experience indicates that allowing invasive and overabundant native animal populations to grow unchecked usually results in ecosystem degradation, including widespread harm and death to many other animals and to the agricultural products that humans rely on for food (reason 3).

Next month, Part 4 will cover the next three reasons as to why humans kill animals and why we can't avoid it.

Ben Allen
University of Southern Queensland



The author, Assoc Prof Benjamin Allen.

Aussie heatwave cleans and sanitises

AUSSIE Pumps has been a proud supporter of the poultry sector since being formed 30 years ago.

The engineering team has worked with the industry and has a vast amount of experience in producing machines designed for shed cleaning.

Originally building big 125LPM 40 and 50 bar shed washdown units, Aussie learnt a lot from growers.

Aussie Pumps chief engineer John Hales said, "Those big machines were powered by Honda twin-cylinder electric-start petrol engines, often either truck or trailer mounted."

Aussie works with the sector and has sharpened up its research and development to help farmers cope with the possibilities of avian influenza contagions.

Enter the heatwave

Aussie Pumps Heatwave is a Honda petrol-engine driven 4000psi steam cleaner.

The machine, compact and portable, provides an infinite degree of cold up to steam capability.

"That capability to go up to 130C means the ability to sanitise and clean at the same

time," Mr Hales said.

Two machines in one

The machine is a very effective 4000psi cold-water pressure cleaner as well as a steam cleaner.

The steam is generated by a 12V diesel-fired burner that heats the high-pressure water as it goes through a heavy-duty Spiralast coil, which comes with a lifetime warranty.

The machine comes in a stainless-steel frame with integrated handles and four flat-free tyres on steel wheels.

The Aussie Heatwave is easy to move around the shed.

"The Heatwave is not designed to do massive wash and flush activities," Mr Hales said.

"It's the ability to both clean and sterilise at the same time is its major attribute."

The machine can be equipped with a 4000psi 30m hose-reel kit that enables the operator to move up to a range of 60m from the machine.

It can also be supplied with a drain-cleaning kit that makes it easy for cleaning blocked drains.

"When cleaning drains you need to be operating with water at ambient temperature, not steam," Mr Hales said.

Other options include turbo lances that fit the heavy-duty gun and even soap dispensing for detergent clean up where necessary.

Aussie Pumps Heatwave, which can also operate with a flat-surface cleaner – though not when operating on steam, is an extremely handy tool for shed clean up.

This is where the steam function can be a very effective method of shed sanitisation.

Bigger machines that have significantly more pressure and flow, all the way to 5000psi and 20LPM are also readily available.

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Promoting resilience – sustainable protein alternatives and low-protein diets for chicken-meat production

AN invited speaker at the Australian Poultry Science Symposium 2025 recently, Associate Professor at the University of Sydney Sonia Liu presented the research 'Promoting resilience: sustainable protein alternatives and low-protein diets for chicken-meat production', co-authored with, among others, Peter Chrystal and Peter Selle.

Following is the edited study into local protein-rich ingredients and non-bound amino acid to conceivably replace soybean meal completely in broiler diets.

Summary

The use of soybean meal in livestock production, particularly poultry, has sparked global debate due to its links to deforestation and biodiversity.

The debate is complicated when balancing sustainability, welfare, economics and equality.

In Australia, chicken meat is the most consumed animal protein, and it plays an important role in national food security.

Soybean meal is the primary protein source for poultry and efforts

to replace imported soybean meal are driven by concerns about supply chain resilience, which was particularly highlighted during the pandemic.

Reduced crude protein diets, where soybean meal is partially replaced by non-bound amino acid, have shown potential to reduce nitrogen excretion, ammonia emissions and improve litter quality.

The authors have investigated the use of NBAA in broiler diets, showing that while poultry are less sensitive to digestive dynamics than pigs, there are limits to how much NBAA can replace intact proteins without compromising growth performance.

Recent studies comparing soybean meal, whey protein and NBAA in broiler diets found that an optimal blend of these ingredients led to superior weight gain and feed conversion.

The inclusion of locally available protein-rich ingredients, such as canola meal and field peas, can be used as alternatives to soybean meal.

Using a combination of NBAA and protein-

rich local feed ingredients has shown promising outcomes to completely replace SBM in our recent studies.

This approach should be further tested with ingredients beyond canola and field peas.

Introduction

The unfortunate reality is that the Australian chicken-meat industry is hugely reliant on imported feed ingredients and feedstuffs.

Many of the feed ingredients including vitamins, methionine, lysine and other feed-grade amino acids, coccidiostats, antibiotic growth promoters, electrolytes and phosphates are totally indispensable.

Among the feedstuffs, soybean meal

is the prime example, with importations in the order of 750,000 tonnes annually.

Thus, locally sourced dietary components are essentially confined to wheat, sorghum, canola meal/seed and limestone.

The inclusion of soybean meal in livestock production has been a debatable topic in recent years globally.

The key argument focuses on land clearing and deforestation in South America and their impact on biodiversity and climate change.

While biodiversity and climate change are both important challenges to address, such debates often overlook the balance between

equality, sustainability, welfare and economics (Sustainable Development Goals 1, 2, 8, 10, 13, 15), the fact that soybean meal is a by-product of the human food and bio-diesel industries and the impact of urbanisation on farmland and the subsequent effect of farm relocation on land clearing.

For example, Western Sydney, where the authors are based, lost 9 percent of its primary production land from 2016 to 2021 and the worst-affected council areas during this period – The Hills Shire, Blacktown, Camden and Campbelltown – lost 43, 39, 26 and 19 percent respectively.

Localising food pro-

duction is crucial for food security – as demonstrated during the global pandemic – and for sustainability, as global food miles account for nearly 20 percent of total food system emissions.

According to Grain Central, Australia harvested a record canola crop of 8.3 million tonnes in 2022-23 but has a canola crush capacity of only 1.2 million tonnes.

This indicates that 86 percent of Australia's crop is exported as whole canola seed, particularly from Western Australia.

Therefore, the prospect exists for the Australian chicken-meat industry to utilise far more locally grown

canola and other protein-rich feedstuffs as substitutes for soybean meal in broiler diets.

Such substitutions, coupled with the development of reduced-crude protein diets, are certainly not without their challenges as will be discussed.

Nevertheless, they potentially have the capacity to reduce at least our reliance on expensive imported soybean meal to marked extents.

The development of reduced crude protein diets is gaining more and more attention globally where soybean meal is partially replaced by non-bound synthetic or crystalline amino acids.

continued P15

Amino acid	Ratio A	Ratio B
Lysine	100	100
TSAA	74	75
Threonine	64	66
Tryptophan	16	17
Arginine	104	110
Isoleucine	69	67
Leucine	107	110
Valine	79	77
Histidine	33	35
Phe + Tyr	116	102
Proline	-	140

Table 1: Ideal protein ratios tested.



The author, Associate Professor Sonia Liu.

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Promoting resilience – sustainable protein alternatives and low-protein diets for chicken-meat production

from P13

Dietary CP reductions were shown to decrease nitrogen excretion and ammonia emissions, enhance litter quality and reduce the incidence of footpad and other lesions.

Nowadays, supplementation of lysine, methionine and threonine is typical in broiler diets and supplemental amino acids – for instance, reduced the dietary CP content from 356 to 200g/kg in a typical maize-soybean meal diet.

Hence, reduced CP diets is not a new practice, and dietary crude protein can be further reduced when more synthetic amino acids are available at affordable prices.

With the focus on digestive dynamics, this paper summarises the research outcomes from the ‘blue room team’ in its efforts to restore growth performance in broiler chickens fed reduced crude protein diets.

Additionally, recent efforts to replace imported soybean meal with locally available protein-rich ingredients are also discussed.

Digestive dynamics and optimal NBAA inclusions

Previously, Liu and Selle concluded that in conventional diets,

feed conversion efficiency may be improved by using rapidly digestible protein and slowly digestible starch in broiler diets – more importantly, protein digestion rates have a more pronounced impact on feed conversion efficiency.

Non-bound amino acids require no digestion and are immediately available for absorption.

Therefore, it is straightforward to treat NBAA as a rapid protein or nitrogen source, and it was hypothesised that increasing NBAA concentrations in diets would enhance growth performance.

This hypothesis initially motivated the authors to investigate the reduced crude protein diets started with Moss et al, and the journey has been both fruitful and enjoyable.

The synchrony between protein-bound and non-bound amino acids was a notable research topic in 1970s when synthetic lysine become available.

Efforts were put in to investigating whether lysine HCl utilisation was compromised by restricted feeding regimes as opposed to ad libitum feeding in pigs, where an interaction between feeding frequency and ly-

sine supplementation for weight gain was reported and higher feeding frequency enhanced utilisation of Lysine HCl.

Recently, we investigated the relevance of this consideration in poultry, particularly broiler chickens on ad libitum feeding.

Yin et al offered broiler chickens’ diets with or without 3.5g/kg lysine HCl, containing either 10.0 or 12.8g/kg digestible lysine, from seven to 28 days post-hatch.

Meanwhile, birds were given access to diets for 12, 16 or 20 hours per day.

Treatment interactions ($P > 0.35$) between lysine HCl and feed access intervals for growth performance parameters were not observed.

The authors concluded that effective lysine HCl utilisation in poultry, irrespective of feeding frequency (unlike in pigs), may stem from anticipatory feeding behaviour, crop and gizzard functionality, shortened retention time and increased episodes of reverse peristalsis.

While it is reassuring that poultry are not as responsive as pigs to changes in digestive dynamics in conventional diets, it remains important to under-

stand whether there is a limit to how much NBAA can be included in broiler diets at higher levels without compromising growth performance.

Baker pointed out that it has been known for well over 20 years that there are limits to how much intact protein can be replaced by free amino acids in terms of achieving maximal weight gain and feed efficiency of broiler chicks.

Macelline et al used a triangular response surface design to compare three diets rich in soybean meal, whey protein concentrates or NBAA to determine the optimal level of NBAA inclusion in wheat-based diets.

Superior weight gain and FCR was found in broiler chickens offered an equal blend of soybean meal and whey protein diets.

This diet was constituted of 84.3g/kg whey protein concentrate and 13.4g/kg NBAA.

Quadratic relationships were found between NBAA inclusions and different growth parameters, the mean optimal NBAA inclusion level was 19.23g/kg across weight gain, feed intake and FCR, above which performance commenced to decline.

Grains with higher inherent protein content may present more challenges when formulating reduced crude protein diets.

This is because, when least-cost formulating iso-energetic and iso-nitrogenous diets, those based on high-protein grains would lead to higher inclusion of cereal grains and NBAA.

This was identified as one of the causes of sub-optimal growth performance in wheat-based reduced CP diets compared to maize and sorghum.

A recently completed study by the authors further verified this hypothesis by utilising both high-protein and low-protein wheat grains where reduced CP diets based on high protein wheat depressed growth performance in comparison to the diet based on low protein wheat (unpublished data).

Amino acid requirements

Two studies were conducted to evaluate the fourth limiting amino acid in reduced crude protein diets based on wheat or maize.

The studies utilised deletion methods, where three control diets were formulated, and then each tested amino acid was re-

moved one at a time.

Both studies confirmed the importance of BCAA in reduced CP diets, especially in wheat-based diets where removing Val caused more damage than removing the set of supplemented amino acids.

The importance of balanced amino acid profile was further evaluated in Macelline et al, where different ideal protein ratios may be preferred by conventional and reduced CP diets.

Proposed solution

The increased cereal grain and NBAA in reduced CP diets is more likely to lead to imbalance between glucose, protein-bound and non-bound amino acids for absorption and utilisation.

This may limit the inclusion of NBAA in the diets.

Hence, the proposed solution to completely replace SBM is to combine alternative protein sources with a moderate level of inclusion of NBAA.

Canola seed and canola meal is produced in large quantities in Australia but their inclusions in broiler diets are capped due to the impact of anti-nutritive factors on growth performance and bird welfare.

Our recent study showed that including 5, 12, 16 and 22 percent canola products in the starter, grower, finisher and withdrawal diets respectively, compromised weight gain, reducing it from 3.73 to 3.60kg per bird ($P < 0.05$).

This reduction was due to decreased feed intake, as no impact on FCR was observed.

Macelline et al evaluated the possibility of including 15 percent canola meal in a reduced CP diets (190g/kg) to completely remove soybean meal and found that canola meal inclusion did not influence weight gain and FCR ($P > 0.05$) in broiler chickens from 16-35 days post-hatch.

Moreover, we tested this approach for the whole production cycle and found that including field peas to diets with moderate CP reduction improved growth performance regardless of the dietary CP levels.

These preliminary outcomes are truly encouraging, and the approach should be tested with other available local feed ingredients.

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