



NATIONAL Poultry

NEWSPAPER

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A new recruit to the Australian poultry industry, Courtney is loving it.

New recruit for poultry industry

■ Poultry Hub's Job Ready Training

PRIOR to the COVID-19 pandemic, Poultry Hub's Job Ready Training initiative was progressing at a great pace, matching unemployed youth with available positions in the poultry industry.

One of the successful new employees was Courtney.

After being let go from her mechanic apprenticeship, Courtney returned to northwest NSW to be with family.

Her job agency referred her to Poultry Hub Job Ready Training, where she completed the four-day training at the University of New England's Tamworth Study Centre.

Courtney demonstrated a clear motivation for learning, great communications skills and was engaged throughout the entire course.

Poultry Hub's education officer Bruce realised quickly that she would be an asset to the poultry industry.

Bruce then assisted to obtain an interview for Courtney with one of the local recruitment agencies.

She was offered some work experience, which she enjoyed and impressed the farm manager enough to be offered a position on the egg farm.

In one of their regular catch-ups, Courtney told Bruce she loved the work.

The tasks Courtney has been undertaking include collecting

and packing eggs and checking on the welfare of chickens.

Courtney has said her favourite duty was undoubtedly walking through the sheds and checking on the birds.

"I wouldn't be working on a farm if it wasn't for the Poultry Hub Job Ready Training," Courtney said.

"Registration, attending the fun and informative training days and then talking with the recruitment agencies have been so easy."

Courtney has been employed for a couple of months and told us she is "still loving it."

"Knowing I have the support of Bruce who checks in with me consistently has reassured me that I'm in a good position, and one that I see myself doing for a while," she said.

Due to the COVID-19 pandemic we have had to pause the hands-on training, however we are using this opportunity to develop an online version, which we are hoping to roll out nationwide.

If you are in the poultry industry and have positions available, or if you would like to start a career in the poultry industry, we strongly encourage you to contact us at poultryhub@une.edu.au

You will be added to our mailing list and notified when our online training course is available and being delivered.

For more details, please contact us at poultryhub@une.edu.au

Changing times but continued support

THE COVID-19 pandemic has changed the way we work, though Poultry Hub continues to support the Australian poultry industry.

Prior to working from home, we were able to do one final education visit to a local primary school.

These visits are of the utmost importance as they provide an opportunity to connect with children and their teachers, which assists them to understand more about our industry.

Our education officer Bruce was able to participate in a 'Food and Fibre Day' at The Armidale School.

Bruce together with University of New England SMART Farm education officer Allison Stewart attended a Year 5 class and gave a presentation about past, present and future farming practices.

The students learnt about the poultry industry and were surprised to learn that on average they consume



245 eggs and almost 50kg of chicken meat per year.

There were many great questions from the students and the teachers.

Following the discussion, Bruce led the students through an egg quality activity where the students candled, weighed, measured the shape ratio, checked the egg for abnormalities and scored the shell and yolk colour.

Many students remarked 'how cool' and 'yummy' eggs are during the activity.

Recently I had the pleasure of witnessing a fantastic new scientific tool at the



University of New England in Armidale NSW.

A group of researchers and technicians – Nishchal Sharma, Shubiao Wu and Brad Dawson – have developed an automated water measurement system that can accurately measure water intake in 48 individual pens.

Each pen can hold 14 birds and has a 1.4-litre reservoir with a microcontroller to monitor water consumption.

Sensors in the reservoir determine when it is empty and trigger the opening of a solenoid valve to allow it to refill.

A flow meter on the inlet line measures the amount of water taken to refill the reservoir.

This data, along with a cumulative count of water use since the beginning of the trial and the number of refills, is transmitted wirelessly to a computer where it is stored in a database.

The researchers can view information in the database through a web browser.

The reservoir is a clear graduated cylinder, so any water remaining at the end of a period may be manually recorded.

During initial days when the chicks are small the reservoir fills once a day but as the chickens grow older it fills two to four times a day.

UNE researchers aim to study the effects of dietary manipulations on performance and water to feed intake ratio of broilers through the grow-out cycle.

The project is funded by Agrifutures Australia.

Poultry Hub's Job Ready

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A student weighed an eggshell during an egg quality activity.



Year 5 students participated in an egg activity.



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Stockyard industries are here to help poultry producers remain fully operational and safe during the COVID-19 outbreak by

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Poultry Industry Calendar of Events

2020

APR 8-9 – National Poultry Show, London, Canada www.westernfairdistrict.com/national-poultry-show

MAY 17-19 – PIX/AMC Gold Coast www.pixamc.com.au

MAY 26-28 – Meat, Fish, Seafood & Poultry Summit, Focus Expo International Exhibition Center, Moskovskaya, Russia www.10times.com/meat-fish-seafood-poultry-summit

JUN 5-9 – National Poultry Show, Sydney, NSW www.rasnw.com.au

JUL 7 – Annual Poultry Club Show Ipswich Showgrounds, Ipswich, QLD

AUG 16-20 – World Poultry Congress, Paris, France www.wpcparis2020.com

NOV 4-5 – Poultry Xpo, Stratford, Canada www.poultryxpo.ca

2021

JUN 21-23 – European Symposium on the Quality of Poultry Meat and XIX European Symposium on the Quality of Eggs and Egg Products, Krakow, Poland www.eggmeat2021.com

SEP 20-23 – European Symposium on Poultry Nutrition, Rimini Italy www.espn2021.eu

How to supply event details: Send all details to National Poultry Newspaper, PO Box 387, Cleveland, Qld 4163, call 07 3286 1833 fax: 07 3821 2637, email: design@poultrynews.com.au

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Australian Eggs managing director Rowan McMonnies



Egg farmers call for community input into CSIRO research program

AUSTRALIANS are being invited to take part in an extensive nationwide research program developed to better understand public attitudes towards the egg industry.

The research is being conducted by social scientists at Australia's national science agency CSIRO, to provide egg farmers with a deeper understanding of community sentiment and measure the impact of industry responsiveness on key sustainability issues such as food security, animal welfare and environmental impacts.

CSIRO senior research scientist Dr Kieren Moffat said this year's work will build on the 2018 and 2019 findings to allow year-on-year comparisons and provide insight into shifts in community attitudes and priorities over that time.

"Relationships between industries and community are complex and take time to change and build," Dr Moffat said.

"We know Australians

eat a huge number of eggs, and we also know the way those eggs are produced is an issue people care deeply about.

"We're offering all Australians the opportunity to have their say through an open survey, and the data we collect will be analysed and reported back to Australian Eggs as the public view.

"In particular, this year, we will be looking to track the effect of the COVID-19 pandemic on public views around food supply systems, food security and food access." Australian Eggs managing director Rowan McMonnies said previous insights from CSIRO have formed the basis for some crucial changes across the egg industry.

"Last year we learnt environmental impact has emerged as a stronger and growing area of interest for Australians, and as a result we funded a suite of new research projects to identify how and where the industry

can lower its environmental footprint," Mr McMonnies said.

"This included feed efficiency improvements, new waste management technologies and online tools to help egg producers assess the viability of solar on their farm.

"Previous research revealed food security is

a major priority for the community and the egg industry responded by ramping up biosecurity efforts.

"The benefits of that can be seen now as the strict biosecurity measures put in place have helped protect farm workers from COVID-19 and ensure continuity of egg supply."

Mr McMonnies said.

The research is the third annual cycle of community engagement to inform the Australian Egg Industry Sustainability Framework.

To participate in the research, go to research.csiro.au/eggs

The survey closes Friday, June 5, 2020.

Egg industry community research

CSIRO is undertaking a research program on community views on the impacts and contributions of the egg industry across areas such as the environment, animal welfare, food security and livelihoods.

[Complete the 2020 community survey](#)

Changing times but continued support

from P1

Training initiative continues to have an impact in the New England region of NSW and this month we explored the employment story of Courtney who is now happily employed on an egg farm in the region (see story Page 1).

She attended the four-day poultry training where she gained valuable knowledge of the poultry industry, hands on skills, as well as confidence from the inclusive and welcoming environment.

Through partnerships with other community organisations, Poultry Hub Australia has been able to provide support to all the participants, ensuring young people can continue to be employed in

the poultry industry and choose to stay on for a long career in our ever-growing workforce.

Lastly, we have exciting news about our training courses.

We are going online. In these strange times of social distancing, Poultry Hub Australia has adapted quickly and is in the final stages of preparing to take the Job Ready training online.

This means that it can be accessed by anyone in Australia.

We look forward to opening this new online opportunity soon.

If you would like to be updated directly or have any related questions, please contact us at poultryhub@une.edu.au



Automated water intake measurement facility for poultry at the University of New England.



Screenshot of ACMF's new online resources.

Launch of new online national school resources

THE Australian Chicken Meat Federation has launched a series of new online school resources – Chicken Farming in the Living World.

The resources reflect the latest updates to the Australian program and offer unique curriculum content within the 'Living World' strands of the kindergarten to Year 10 NSW science syllabuses.

These resources are aligned with the 'Biological Science' strand of the Australian curriculum.

The Chicken Farming in the Living World inquiry-teaching resource series explores how humans use chickens for meat.

The series incorporates videos created by ACMF

with supporting teaching resources developed by experienced primary and secondary school teachers.

ACMF executive director Dr Vivien Kite said, "Chickens are fascinating animals and provide students with an interesting subject matter to discuss the many aspects of our living world, from the interactions between humans and animals, how we create food from animals, how scientific knowledge influences our living world, through to understanding what a managed ecosystem looks like in the context of a broader natural ecosystem."

"As the industry peak body, it is important

such resources are developed – to inform and ensure an understanding of how chicken meat is produced while remaining in step with the shift in classroom teaching over recent years, from teacher-led learning and activities to a student-led approach."

The content offers teachers new plug and play ready resources from the 'Living World' strand, and provides curriculum content tailored to each school stage across primary and secondary levels.

The resources address the following questions:

- Stage 1 – Years 1-2 – How do humans use plants and animals?
- Stage 2 – Years 3-4 – How do we create food

and fibre from animals and plants?

- Stage 3 – Years 5-6 – Why is it important for food and fibre to be produced sustainably?

- Stage 4 – Years 7-8 – What scientific knowledge has influenced the current agricultural practices of the chicken meat industry?

- Stage 5 – Years 9-10 – How does the closed system of a chicken meat farm model the interactions, flow of energy and the cycling of matter through a natural ecosystem?

To access the Chicken Farming in the Living World resources teachers, educators and parents can visit chicken.org.au/school-resources

Apiam's Zoono sanitiser a major breakthrough in COVID-19 prevention

ONE of Australia's largest veterinary service providers Apiam Animal Health, having recently secured distribution rights of a revolutionary surface sanitiser and protection nanotechnology, has had its Z-71 Microbe Shield product approved by Australia's Therapeutic Goods Administration for use against COVID-19.

The TGA approval comes on the back of research conducted in the UK against a COVID-19 surrogate – feline coronavirus – where Z-71 Microbe Shield was able to reduce viral levels by over 99.99 percent.

Apiam managing director Dr Chris Richards said the biggest difference between this sanitiser and others on the market is that Z-71 Microbe Shield continues to remain effective over time, through killing pathogens by mechanical rather than chemical action.

"It has been demonstrated through extensive research over 10 years against a range of pathogens to be effective for up to 30 days.

"Laboratory tests are currently progressing to establish the duration of protection the Z-71 Microbe Shield product will have against a

COVID-19 surrogate." Apiam has demonstrated 30-day pathogen protection in its animal field studies against a similar coronavirus that causes high mortality in young pigs.

"Both mechanical and chemical sanitisers will kill most pathogens almost straight away but the fact it has been tested to be effective against many germs for up to 30 days on surfaces is a major breakthrough," Dr Richards said.

Apiam acquired the distribution rights for the livestock and animal health industries in Australia in November last year for the disinfectant technology, which is manufactured in New Zealand by Zoono Group Limited.

"We were initially attracted to the Zoono products for use by our network of vets to sanitise and protect piggeries, poultry sheds and livestock systems, as well as for use in biosecurity programs with the technology having been proven in laboratory tests in the Netherlands to be effective against African swine fever virus," Dr Richards said.

"African swine fever is a contagious viral disease of domestic and wild pigs.

"There is no vaccine and it kills about 80

percent of the pigs it infects.

"On December 11, 2019 the federal government announced \$66.6 million of funding to address the immediate threat of the disease, which has recently been reported as close as Papua New Guinea and Timor-Leste."

Apiam had been using its current supply of Z-71 Microbe Shield to sanitise its own offices and veterinary hospitals around the country.

"Veterinary practices are seen as essential services and we ensure ours are as safe as possible for our staff and clients," Dr Richards said.

There has been strong demand from both Apiam clients and the greater community for the use of its products, and Apiam provided 'fogging' services where requested to assist other essential businesses and workplaces improve their biosecurity and hygiene systems.

Apiam Animal Health stocks Z-71 Microbe Shield, and expects additional supplies of both Z-71 Microbe Shield and Zoono's hand sanitiser in the coming weeks, which will be available through Apiam clinics and the countryvet.com.au website.

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Insecticide

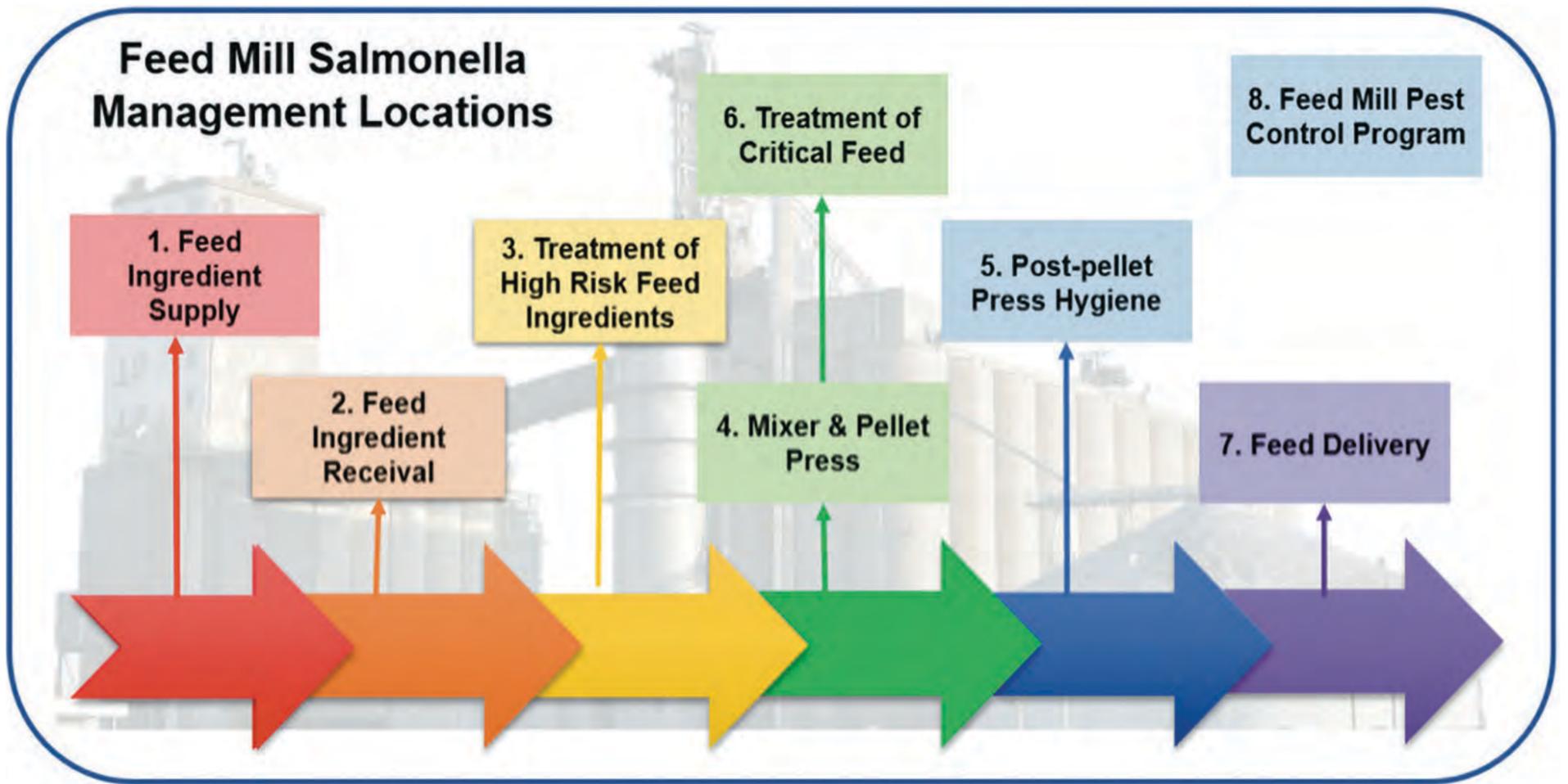
- Specifically developed for use within poultry sheds, for the control of litter beetles and a range of flying and crawling insects
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The eight feed mill salmonella management locations.

Age at <i>S. enteritidis</i> challenge	Age at liver/spleen sampling & testing	No Aleta™	With Aleta™ (g Aleta™/t)
Day 3	Day 4	16%	0% (100g/t)
Day 7	Day 10	98%	58% (200g/t)

Table 3: Percentage of birds with *S. enteritidis* detection in liver/spleen after *S. enteritidis* challenge.

Sample	Control group	FormaXOL™ @ 0.75kg/t	FormaXOL™ @ 1kg/t
Positive caecal samples	7/15	2/15	2/15
Positive neck skin samples	6/15	0/15	0/15

Table 2: Number of salmonella positive caecal and neck skin samples from broiler chickens at 40 days of age after oral inoculation with *S. enteritidis* at 11 days of age with 15 birds per group.

Feed ingredient survey	No. of samples	% +ve for <i>Salmonella</i>	Feed mill surveys	No. of samples	% +ve for <i>Salmonella</i>
blood meal	278	2.9	intake pits/augers	1,336	3.7 - 24.1
poultry offal meal	39	7.7	mixer	2,026	0.8 - 11.8
meat & bone meal	1214	17.8	conditioner	1,497	0.7 - 7.0
canola meal	1246	17.7	pellet press	4,855	1.4 - 7.5
soybean meal	1257	4.5	cooler	5,052	2.6 - 20.2
whole grain	575	1.7	out-loading bin	882	0 - 15.1

Table 1: Feed ingredient and feed mill* survey data. * lowest feed mill survey *Salmonella* + ve values were from the Australian mills.

Managing salmonella in and via feed

MANAGING the invisible hazard and constant threat of salmonella should not just happen when faced with the problem.

It requires constant awareness combined with constant diligence, constant vigilance, and deployment of the 'multiple hurdle' approach, i.e. placing multiple 'hurdles'

in the way of salmonella to progressively reduce the probability of contamination.

When there is not constant awareness, diligence and vigilance at each point along 'the chain', the chain can break and potentially present an amplified problem at points closer to the final consumer.

There are many possible salmonella entry points including feed, litter, drinking water, purchased day old chicks or pullets, eggs coming on to farms from other locations, trucks, equipment and other physical objects that could carry salmonella, the environment, pests (e.g. rodents and beetles), wild birds, other livestock and domestic animals,

and people.

The risks associated with these entry points must be assessed and managed accordingly.

The focus points for the 'feed to farm' link in the chain are:

- the feed ingredient production process and feed ingredient storage prior to arrival at the feed mill, i.e. large or small feed mill,

- the transportation of feed ingredients from the supplier's storage to the feed mill,

- the feed processing line in the feed mill, including feed ingredient storage through to finished feed storage,

- the transportation of feed to farm (long or short distances), and on-farm storage of feed.

Feed ingredients & the feed mill

A recent survey (Table 1) reported the incidence of salmonella positive feed ingredients from samples collected across 22 Australian feed mills between 2003 and 2018 (Parker et al., 2019).

Feed mill line surveys have also been published and Table 1 shows the combined results from four surveys, i.e. 10 mills in the UK (1997), three mills in the US (2004), 17 mills belonging to one company in Australia (2008) and 22 mills belonging to the same company in Australia (2019).

The three elements of a salmonella control program in a feed mill are (Jones, 2002):

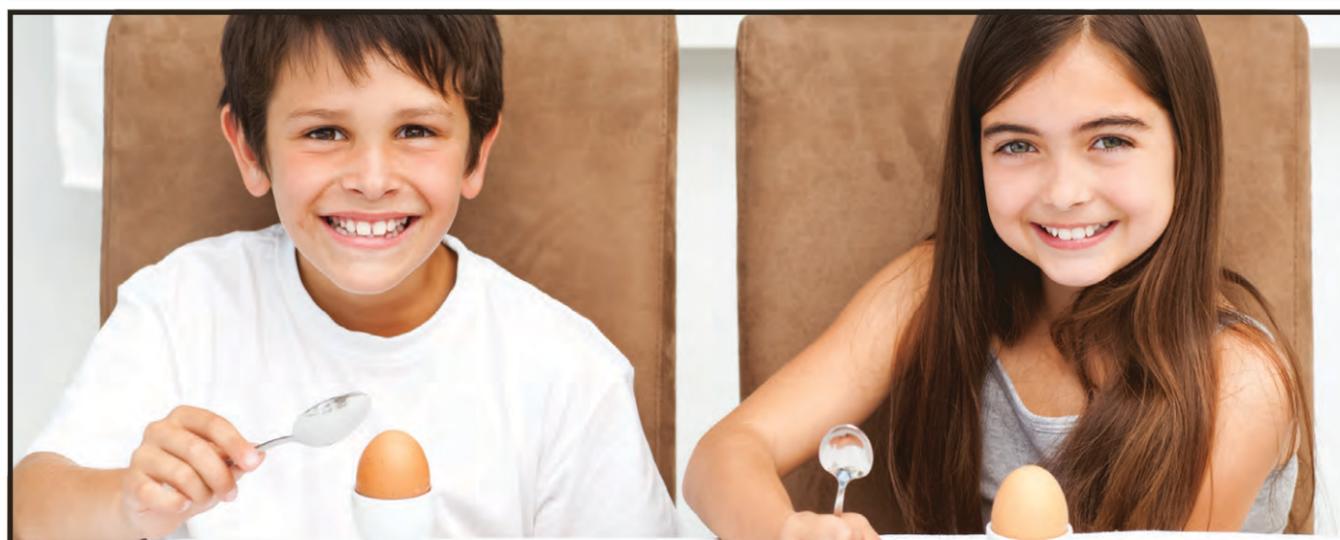
1. Prevent salmonella from entering the mill – with no heat step in mash feed production, management of feed ingredients is paramount. Feed ingredient delivery truck hygiene is important. A thorough rodent and wild bird control program is required. Other wild or domestic animals should not be allowed inside the feed mill boundary.

2. Reduce salmonella multiplication within the mill environment – this is very important when feed is predominantly in mash form as there no heat step. Keep each point along the milling process dry and clean with minimal dust accumulation. Roofs, ceilings and walls should not allow water ingress. Maintenance of mill cleanliness must be a part of the mill's program with physical cleaning being a normal component of daily work functions, e.g. feed or feed ingredient spills should be cleaned up immediately to promote a good 'cleaning culture'. Each point along the milling process requires its own set of salmonella preventative and corrective actions. A program of sampling feed and dust, including surface swabbing, at points along the milling process is required to determine where microbial contamination and multiplication are occurring so that targeted corrective and preventative actions can be implemented. Feed sampling should be done with single use items, i.e. clean disposable gloves, a clean disposable collecting device (e.g. plastic cup), and a clean, tightly sealable bag or container. A powdered salmonella inhibitor product (Sal CURB, Kemin Industries) can be flushed through the line or added at points along the feed milling process to contribute to overall feed mill hygiene.

lowed inside the feed mill boundary.

3. Have procedures in place to kill the bacteria – appropriately formulated organic acid based liquid products (Sal CURB), and organic acid-formaldehyde based liquid products (Sal CURB), may be used to treat higher

• continued P6



Kemin's Feedmill Salmonella Control Programme

Safely protect your feedstuffs and animal populations from *Salmonella* contamination with Sal CURB™ and FormaXOL™.

Kemin delivers technical expertise and support, laboratory testing services, application engineering solutions, and safety training to meet your needs. Trust Kemin and Sal CURB and FormaXOL to become a key part of your comprehensive pathogen control program.



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Z-71 MICROBE SHIELD

SURFACE SANITISER & PROTECTANT

Z-71 is an effective surface sanitiser and protectant for all poultry housing systems. Application of Z-71 Microbe Shield to other areas of the farm including office spaces, change rooms, high touch areas and vehicle cabins will provide long lasting pathogen protection and enhance farm biosecurity.



Why Choose Z-71 Microbe Shield?

Modern Technology

- Z-71 Microbe Shield is a new generation Quaternary Ammonium disinfectant.
- Z-71 Microbe Shield attaches to surfaces and offers protection against pathogens for up to 30 days*.
- Once attached to a surface, Z-71 Microbe Shield kills pathogens by a combination of mechanical and chemical actions.
- Fogging delivery ensures superior coverage of all surfaces. Spraying allows top-up on high traffic spots.

Broad Spectrum Activity

- Z-71 Microbe Shield is a broad-spectrum antimicrobial sanitiser demonstrated to be effective against bacterial, viral and fungal pathogens.
- Laboratory tests by Wageningen University in the Netherlands has demonstrated Z-71 Microbe Shield to provide a 4.5 log reduction (99.99% reduction) against African Swine Fever virus in both clean surfaces and in the presence of low levels of organic matter.

Use and the Environment

Z-71 Microbe Shield is non-corrosive, non-leaching, clear, hypoallergenic and approved for food uses in many countries.

Fogging:

Fogging is a safe, simple and quick process. It is important to use a fogging device that is suitable for the area/s to be fogged. Apiam Animal Health can assist with the initial fogging process and training of farm staff on how to effectively fog facilities.

Appropriate fogging devices can be purchased through Apiam Animal Health.

Please contact us for further information.

Visit Zoonovet.com.au for product information or your **Apiam Swine & Poultry team:**

West Coast 08 9361 5550; East Coast 03 5445 5920

Z-71 Microbe Shield has been approved by the Australian Governments' Therapeutic Good Administration (TGA) for use against COVID-19, bacteria and germs on hard surfaces.



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Managing salmonella in and via feed

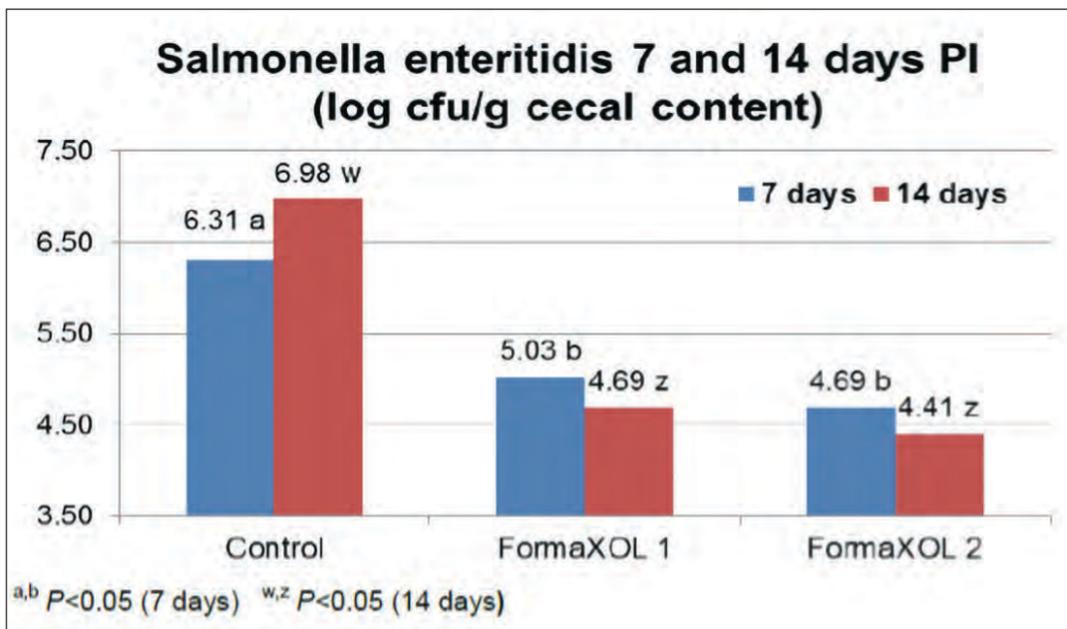


Figure 1. S. enteritidis counts in the caecum at seven and 14 days post-infection.

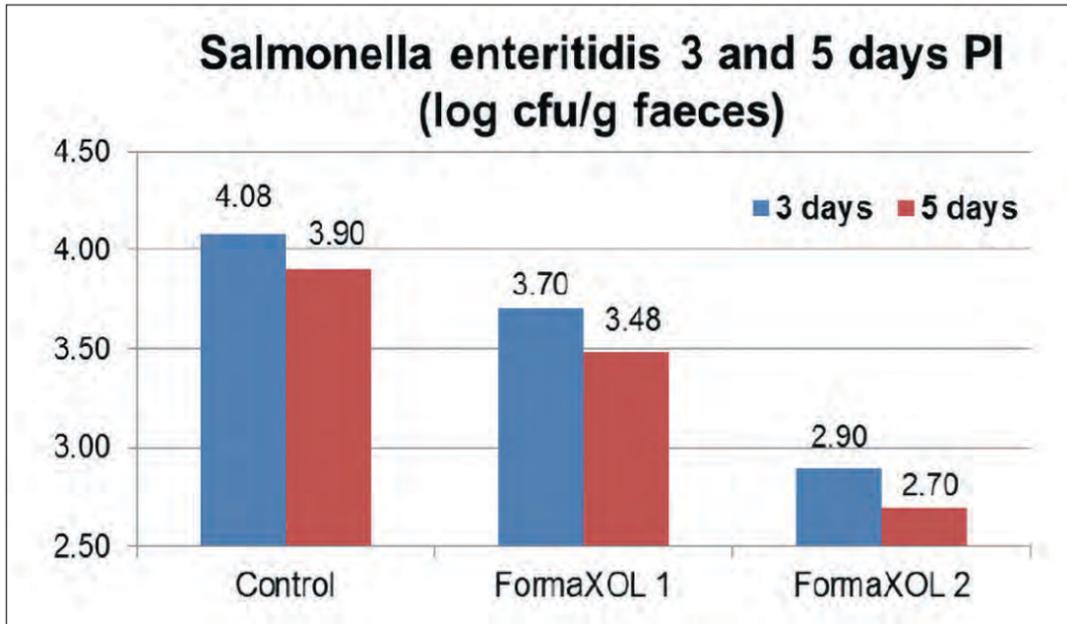


Figure 2. S. enteritidis counts in faeces at three and five days post-infection.

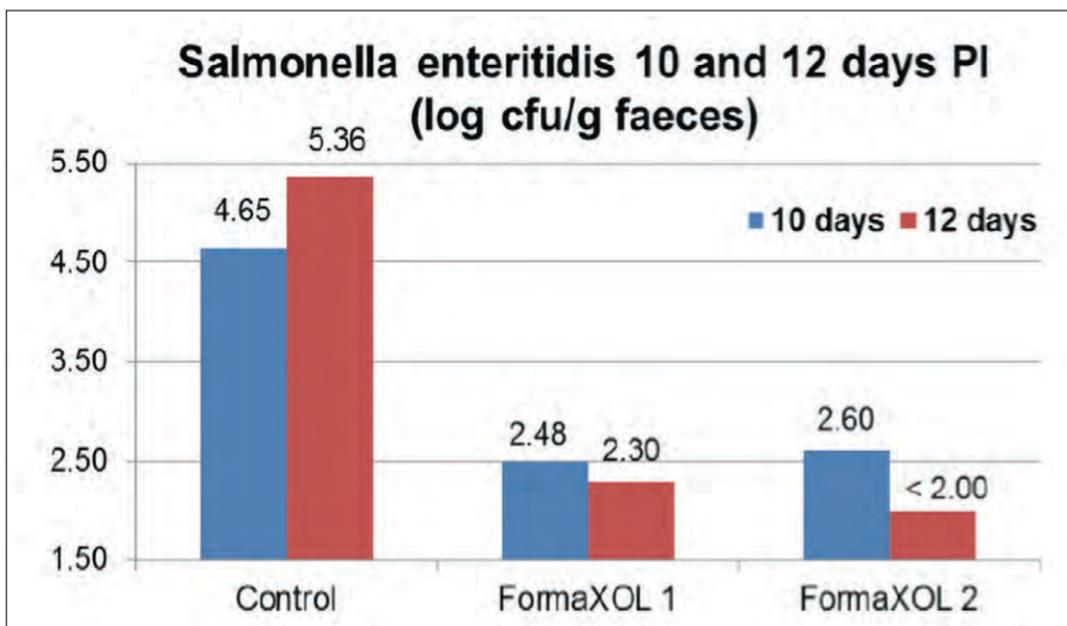


Figure 3. S. enteritidis counts in faeces at 10 and 12 days post-infection.

from P4

risk ingredients and contaminated ingredients. Exposure to heat in the pelleting process can kill salmonella. Salmonella inhibitor products are useful in mash feeds and are also used in pelleted/crumbled feed as a supportive adjunct to the pelleting heat-kill step.

Examples of practical steps to consider in a feed mill's salmonella management program include:

1. Feed ingredient supply:

- establish & maintain an approved supplier system

- approved suppliers should ideally have an audited quality management system that includes monitoring & controlling salmonella

- ensure a delivery truck hygiene program is in place (the use of dedicated vehicles is an advantage).

2. Feed ingredient receipt:

- establish a sampling & total enterobacteriaceae count/salmonella testing schedule

- flush ingredient intake pits & augers with a powdered inhibitor product

- powder fog ingredient storage bins & flat storage areas with a powdered inhibitor product.

3. Treatment of higher risk feed ingredients with a liquid inhibitor product:

- as a routine treatment, or as required based on testing &/or prior history

- when higher risk ingredients are used in critical, more sensitive diets (this may require designated storage bins)

- treat at the supplier's premises or at the feed mill.

4. Mixer & pellet press:

- mixer cleaning regime, i.e. removal of accumulated material & application of an inhibitor product

- ensure press is operating at required designated conditions

- use of press diverter or inhibitor product treatment of initial batches

- press & diverter cleaning schedule including dust control around the pellet press.

5. Post-pellet press hygiene:

- identify any equipment that allows build-up of feed & moisture penetration

- mixer application of a powdered inhibitor flush through the production line

- cooler cleaning schedule including fogging with a powdered inhibitor

- bucket elevator boot clean-out schedule & addition of powdered inhibitor into boots

- cleaning schedules for out-loading bins, bag packing bins & bagged feed warehouse areas including fogging with a powdered inhibitor product.

6. Treatment of critical feeds with an inhibitor

product:

- e.g. breeder feed, starter feed, pullet rearing feed, mash feed

- finished feed testing schedule for salmonella and total enterobacteriaceae.

7. Feed delivery transport:

- routine truck cleaning including fogging with a powdered inhibitor product

- use of dedicated vehicles.

8. Feed mill pest control program:

- grounds around mill to be well drained

- no long grass in or around the mill site

- immediately remove spilt feed & feed ingredients from all locations in & around the feed mill

- cover intake pits when not in use

- extensive, controlled & managed use of rodent bait stations

- have systems in place to prevent wild bird entry, e.g. intake pit area and out-loading area entry & exit doors, mesh bird netting use where practical

- exclude domestic & wild animals.

The bird

Salmonella inhibitor products based on organic acids and organic acid-formaldehyde blends are principally aimed at feed hygiene.

While organic acid-based products will have effects on salmonella in the upper digestive tract, activity will diminish along the small intestine.

So, while the ingredients in these products will not reach the hindgut of the bird, their actions on salmonella in the feed and in the upper tract of the bird can reduce viable salmonella numbers reaching the lower gut.

Additional to feed hygiene, products containing ingredients that have been specially coated to help ensure transit and activity along the digestive tract of the bird can be useful (examples 1 and 2), as can products aimed at 'priming' the bird's immune system to enable enhanced immune responsiveness to salmonella (example 3).

At seven days of age, broiler chickens were heavily infected by orally dosing a field strain of salmonella enteritidis at a research institute in Italy.

A coated formulation of an essential oils/organic acids mixture (FormaXOL, Kemin Industries) included in the feed at 1 or 2kg/tonne resulted in significant reductions in S. enteritidis counts in the caecum at seven and 14 days after infection (Figure 1).

Reductions in the faecal counts were also recorded at three, five, 10 and 12 days after infection (Fig-

ures 2 and 3).

Example 2

In a similar trial at the same research institute in Italy using broiler chickens orally infected with S. enteritidis at 11 days of age, the same coated product (FormaXOL) included in feed at 750g and 1kg/tonne, significantly reduced the number of birds with caecal samples and neck skin samples that were positive for salmonella at day 40 (Table 2).

Example 3

When broiler chicks (50/group) were orally infected with S. enteritidis at three days of age and then sampled the next day, birds receiving feed that contained beta-1,3-glucan (Aleta, Kemin Industries) from a specific micro-algae (Euglena gracilis) showed significantly reduced detection of S. enteritidis in the liver & spleen compared with salmonella challenged birds not receiving beta-1,3-glucan (Table 3).

A significantly reduced percentage of birds with liver and spleen detections of S. enteritidis was also found in birds receiving feed that contained beta-1,3-glucan (Aleta, Kemin Industries) when the birds were challenged with S. enteritidis at seven days of age and tested three days later.

Beta-1,3-glucan 'primes' the bird's innate immune system enabling enhanced responsiveness to subsequent challenges.

These results indicate reduced trans-location of salmonella from the gut into the birds' tissues due to beta-1,3-glucan supplementation.

This research was conducted by the United States Department of Agriculture.

Summary

- Salmonella is a food safety hazard of biological origin

- there are many known and practical interventions that can be adopted in the feed mill and on the farm to manage this hazard

- vaccines, farm biosecurity & farm hygiene all play key roles

- an on-going, comprehensive & integrated preventative program is needed in the feed mill

- Sal CURB is used for feed hygiene

- FormaXOL & Aleta are used to complement feed hygiene for in-bird management

- the overall program should create multiple hurdles for salmonella.

For further information, contact Kemin Industries (Asia) Technical Services Manager Rick Carter on 02 9482 2357 or 0412 888 485.



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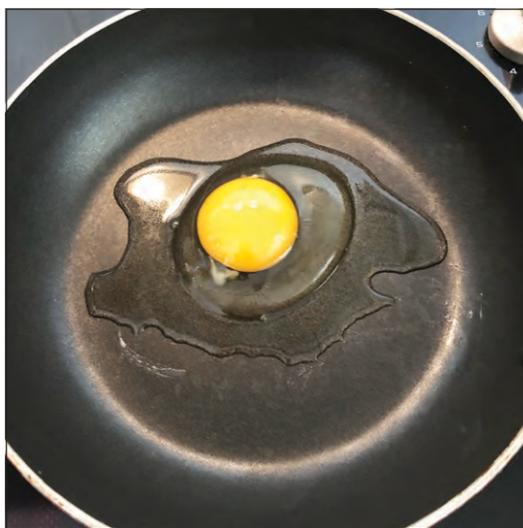


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Salmonella runs on the board in Sydney test



Runny white and runny yolk, so not yet cooked and not ready to eat.



Over easy, or perhaps closer to over medium or even over hard. Ready to eat.

UNIVERSITY of New South Wales researchers have created new DNA tests to accelerate salmonella detection and pinpoint the source of food-poisoning outbreaks.

They have developed a series of accurate and highly sensitive DNA tests which can identify the five most common salmonella subtypes in Australia.

Salmonella is one of the most common causes of foodborne disease, including in Australia.

Salmonellosis, the disease caused by the bacteria salmonella, is usually characterised by acute onset of fever, abdominal pain, diarrhoea, nausea and sometimes vomiting.

People generally catch salmonellosis by consuming contaminated food of animal origin – mainly eggs, meat, poultry, and milk – although other foods, including vegetables contaminated by manure, have been implicated in its transmission.

These new tests are fast, detecting DNA in as little as eight minutes and work at a constant temperature unlike other methods that require specialised equipment for temperature cycling.



Cant Comment by BRENDON CANT

Pending further research the scientists say their tests could help public health laboratories and industry curb the spread of salmonella outbreaks.

The research overcomes the expensive and laborious traditional bacteria-culture method and paves the way for fast track testing directly from specimens.

UNSW School of Biotechnology and Biomolecular

Sciences senior author Professor Ruiting Lan said the new tests could play a critical role in quickly and accurately tracing the origin of future salmonella infections.

“It is essential for public health investigators to have a fast, simple way of tracking down the source of salmonella outbreaks, so the ability to test for different types of salmonella is important.

“Salmonella, whether it’s in a clinical or food sample, even in faecal matter, may exist in minute amounts and requires highly sensitive methods to detect.

“Our enhanced Multiple Cross Displacement Amplification method can detect tiny amounts of DNA rapidly and at a constant temperature, which makes it an excellent fit for a simple, rapid and sensitive bacterial detection test.

“It is a clear improvement on the existing MCDA test for salmonella that does not distinguish between different subtypes of salmonella,” Professor Lan said.

In 2017, more than 16,000 cases of salmonella poisoning were reported in Australia – a 30 percent increase on the previous 10 year average, while the rate is estimated at 185 cases per 100,000 people per year.

Five salmonella subtypes known as serotypes caused more than 85 percent of the infections in 2017.

UNSW Science PhD candidate and first author Xiaomei Zhang said the new detection method could identify the five most common salmonella serotypes and would be crucial to help control the spread of infection during outbreaks.

“It’s important to detect the different serotypes because some are more like-

ly to be associated with local infections while others more likely to be associated with imported cases.”

Professor Lan said the new DNA tests developed in the study were unique because the gene markers used were selected from analysing thousands of salmonella genomes.

“These markers are specific to the given serotypes and thus future-proof our new tests as traditional culture-based serotyping is being phased out.”

“The team look forward to continuing their research through field testing.

“The performance of the MCDA tests warrants further validation, so more work needs to be done.

“The test has been developed using pure cultures.

“It will need to be validated using samples in health, environment and food industry settings.

“It’s difficult to know when our tests would become available, but they are part of the global trend towards culture-independent diagnostic tests which can identify the bacteria causing a foodborne illness without the need to culture the bacteria in a lab.

“Down the track, our tests could be used in clinical diagnosis in determining the common serotypes that cause salmonella disease, to analyse trends of serotypes for public health surveillance, and they could also have application in the food industry,” Professor Lan said.

According to Australian Eggs’ website salmonella is killed instantly at 74C.

So if unlucky enough to get an egg with bacteria on it, the food will become safe by cooking it properly.

In the same way people know not to eat raw chicken or leave milk out of the fridge all day, there are a few simple steps to protect against possible egg-related food poisoning.

These include cooking eggs until the white sets and yolk begins to thicken; washing hands with soap and water after handling uncooked eggs; not buying cracked or dirty eggs; and storing eggs in the fridge and inside the carton they were purchased in.



Sunny side up (author’s preference), ready to eat. medium or even over hard. Ready to eat.

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Chooks love gardening

GARDENING Australia’s Costa Georgiadis said his chooks are pretty happy.

Like the rest of Australia, the gardening guru is spending more time at home and, unsurprisingly, in his backyard.

“The chooks are spending a lot more time in the broader garden and actually out on the street as I do work on my street garden,” Costa said.

“Their definition of lockdown is free range.”

These are troubling times, but for Costa there is a big silver lining, and that’s seeing how many people are getting back into their gardens.

To help you make the most of it, Costa has some advice on chooks.

Costa’s chooks like a bit of gardening themselves, especially when he tries to put the mulch out.

“They didn’t go to

the school of colouring between the lines, they spread the mulch outside the garden beds,” he said.

“But hey, they’re happy.”

If you’re looking to buy some chickens, chances are you’re not alone.

At the same time there was a run on toilet paper, chicken breeders around the country were also being inundated.

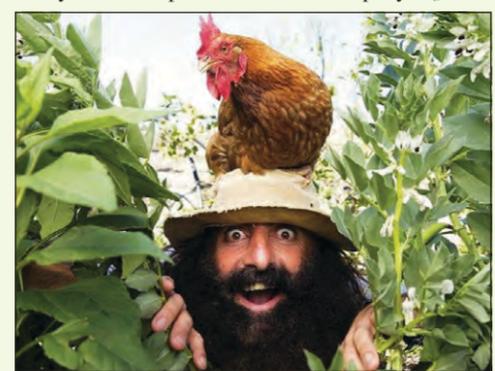
If you do want to get some chooks, consider how you will keep them.

There are pre-made coops on wheels, which can move across the yard so the chooks are not fixed in one point.

In terms of space, a smaller coop is OK as long as the chickens have space they can be let out to roam around in.

About 10 square metres is a good guide.

“That would be enough to have a couple of chickens, and it’s nicer to have two rather than one, to keep each other company.”



It’s better to buy two chickens, Costa says.



Sunny Queen still supplying egg-ssentials

SUNNY QUEEN Australia has announced it is doing everything it can to continue supplying its 'egg-ssential' smiley-faced eggs and Meal Solutions products, despite the COVID-19 pandemic.



Sunny Queen Australia chief executive officer Julie Proctor said, "A key focus area is keeping supermarkets stocked with eggs for consumers' at-home cooking and nutritional needs during isolation."

"Our farmers are doing their very best every day to support the heightened demand for eggs."

"We are also continuing to deliver our Meal Solutions range

to support takeaway cafes and quick-service restaurants, catering services, the aged-care and healthcare sectors, and our other extremely valued customers.

"This range includes a variety of liquid egg products, delicious omelettes, moreish frittatas, scrumptious fritters, our great tasting French toast and much more."

"They are all quick to reheat, nutritious and tasty."



ACMF provides assistance and advice for industry

THE chicken meat industry has a critical role to play in putting food on the table of Australians across the country.

As such, the Australian Chicken Meat Federation is providing ongoing assistance and advice to its members to safeguard the future supply of chicken meat to Australian families.

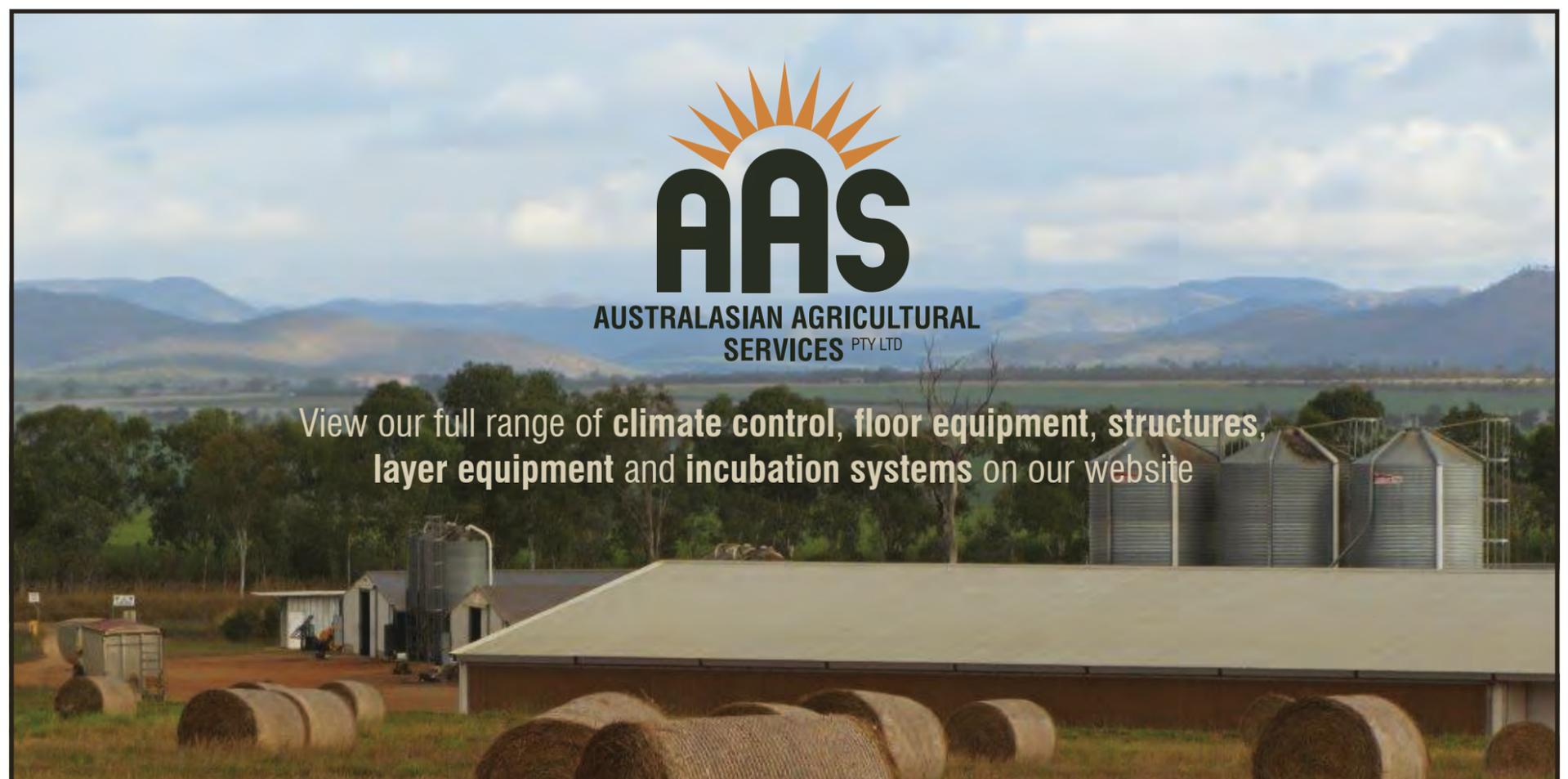
The industry recognises that the health and safety of its workforce is paramount, and must be its first and foremost responsibility.

Prioritising the health and wellbeing of the industry's workforce, the ACMF is working with

companies to ensure practices and contingency measures are in place to protect employees, their families and the broader community.

The ACMF commends the exemplary ongoing efforts made by its members and their supply chain partners who are also affected at this very difficult time.

Committed to supporting its members throughout the COVID-19 response and recovery, the ACMF is helping the industry to manage and mitigate the current, changing and future impacts of COVID-19.



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Hospitality industry downturn vs high home cooking demand

DEMAND for eggs is high with the great home-cooking happening, yet many farmers are affected by the downturn of egg use in the hospitality industry.

The egg industry has worked with government at state and federal levels in relation to a range of issues.

Issues included future demand for grain supply from intensive industries in the coming months, the impact of COVID-19, spent hens, the increase in insurance costs, investment in the egg industry and the needs of the labour force into the future.

COVID-19 has required that issues be worked through one by one.

Firstly, ensuring our industry was classed as an essential service.

Secondly, that government understood the requirements of farmers in



relation to closed borders.

Crucial to production and farmer support was that products, spare parts and people such as vets and technicians were able to cross borders.

With such engagement, the egg industry and farmers have been able to continue to contribute towards feeding our nation.

Additionally, government authorities have been made aware of the operations required for

grading floors during the social distancing period.

Personal health, food security, logistics and business continuity are issues that, through political engagement, we have worked to find solutions for as all parties continue to help each other in these challenging times.

That is not to say there have been easy overnight solutions to the problems we have been working on, or of those challenges on

the horizon, however we have actively sought the assistance of officials able to help.

Thank you to those people who have made contact in relation to respective issues – this has ensured engagement with authorities was informed with examples.

It has been imperative to provide constant justification to government to substantiate issues.

Pleasing to hear are the measures farmers have put in place to reduce risk, and that the Coronavirus-19 Guidelines made available through Australian Eggs have been of help.

To join Egg Farmers of Australia, please visit our website eggfarmersaustralia.org or email info@eggfarmersaustralia.org



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Chicken processing plant reduces odours with safe aeration technology

A CHICKEN processing plant needed aeration to reduce odours associated with its wastewater treatment system.

The plant had a large 350,000-litre tank with in-flows exceeding four megalitres per day.

The owners also wanted a system that was easy to maintain and safe for operators.

Engineers at the plant selected a venturi-aeration system that consisted of two VA-1100 (6") venturi-aerators, powered by two Gorman-Rupp pump model V6A60-B pumps with a combined discharge rate of 140 litres per second.

The Gorman-Rupp pumps draw the wastewater from the tank and discharge it at pressure into the venturi-aerators.

Air is drawn into the aerator at a ratio 2.2 times the pump flow, where it is mixed with the wastewater.

Water is then discharged back into the tank, where 'hydraulic shear' facilitates the release of soluble gases and volatiles from

the water, which is now saturated with dissolved oxygen.

The discharge ports of the two aerators were set up tangential to the side wall to induce a 'spin' to the contents of the tank, causing solids to migrate to the centre where the pump suction lines were positioned.

This way, large solids are collected and smashed through the pump and aerator, reducing their size and making them more available for biological reaction.

The plant has found the system very easy to access for monitoring

and maintenance because it is located outside the tank (not in it or on it).

Therefore no lifting apparatus is needed to access equipment, and there is no 'working over water' or 'working at heights' to contend with or write up on risk-assessment documents.

Hydro Innovations regional manager Shaun Allgood visited the plant and noted everything had been installed and was functioning perfectly.

A spokesperson from the plant said they had no problems at all with the system.

Shaun will continue to stay updated on this project and provide assistance when needed.

Smaller projects are possible with the use of smaller venturi-aerators, which are available in 50mm, 80mm, 100mm and 150mm sizes.

Larger projects are approached by using multiples of the larger unit, sometimes using a dedicated large pump to 'drive' two, three or even four venturi-aerators.

More information can be obtained by emailing info@hydroinnovations.com.au





Eggs boost vitamin D intake for a healthy immune system

RESEARCH reveals that 23 percent of Australians are vitamin D deficient and this increases to 36 percent at the end of winter.

It's suggested that this is due to several lifestyle factors, including prevalence of indoor jobs, increased office hours and increased time 'on screens' inside.

With Australians currently spending more time indoors than ever before, receiving adequate vitamin D is vital for main-

taining a strong immune system and healthy body.

Nutritionist Dr Joanna McMillan said that given the current health climate, colder temperatures and change in daylight savings, it is now more important than ever to ensure vitamin D levels are not declining.

"We need adequate levels of vitamin D to have a balanced, healthy immune system," Dr McMillan said.

"Exposing your skin to the sun for short periods boosts vitamin D, how-

ever that is not always safe or possible and therefore food sources of vitamin D become very important."

There are several inexpensive, versatile foods that can help boost vitamin D intake, and most can be very easily incorporated into weekly meal planning.

To boost intake, eggs are one of the highest natural sources of vitamin D – one serve provides 82 percent of the recommended daily intake for adults.

"By having two eggs a day, whether this be whip-

ping up an omelette or eggs on toast, you could be keeping your body healthy," Dr McMillan said.

"It's also great to include an oily fish meal a few times a week such as salmon or mackerel, enjoy a small amount of liver pate on toast, and look for a vitamin D enriched milk."

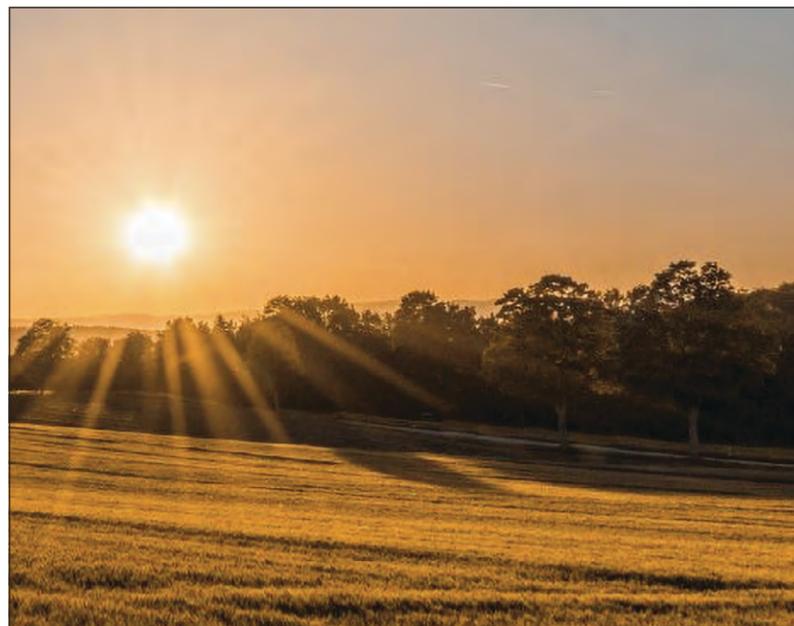
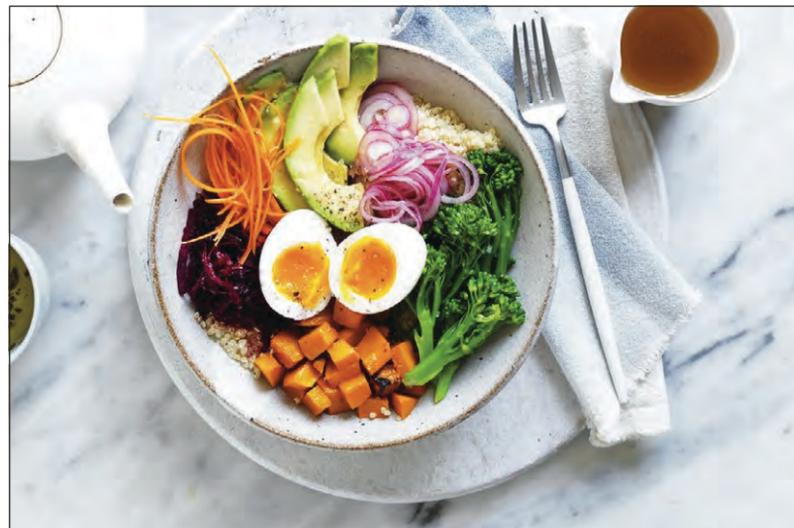
Vitamin D, nicknamed the 'sunshine vitamin', is essential to absorb calcium that is required for strong bones and healthy teeth.

It is also involved in the regulation of certain hormones and the maintenance of a healthy nervous and immune system.

Low vitamin D is known to impact immune function, bone health and increase the risk of chronic disease or infection of the respiratory tract.

The top five benefits of vitamin D are strong bones and teeth; hormone regulation; maintenance of a healthy nervous system; boosting immunity; and supporting a healthy pregnancy.

For more information, visit australianeggs.org.au/nutrition/



Australia's food supply guaranteed

A NEW report has affirmed Australia's credentials as one of the world's most food secure nations, with our farmers producing substantially more food than Australians consume, even during drought years.

The latest Insights report by the Australian Bureau of Agriculture and Resource Economics and Science details that almost 89 percent of the food Australians enjoy is grown right here. Only 11 percent is imported, 1.6 percent of that is fresh produce and the remainder, non-perishable goods.

National Farmers' Federation president Fiona Simson said, "During the COVID-19 pandemic, Australians are understandably focussed on keeping themselves and their families well and key to that is a plentiful, nutritious diet."

"In these uncertain times, we want to Australians to know that farmers are on the job.

"Working from home, as they always do, continuing to produce in high volumes the milk, eggs, red meat, poultry, pork, grains, fruit, vegetables and other staples Australians depend on."

The report also confirmed that sometimes-bare supermarket shelves were not a sign of a shortage of food, but rather a symptom of COVID-19 panic buying.

"From paddock to plate, our nation's food supply chain is a well-oiled machine," Ms

Simson said.

"However, as finely tuned as it is, the system needed some time to adjust to the unfortunate over-zealous buying of some consumers – a situation that has been experienced across the world."

According to the latest figures, 70 percent of Australia's total agricultural production is exported for the world to enjoy.

"This is true even during drought years like those most recently experienced," Ms Simson said.

"Overall, each and every year farmers provide significantly more than our nation can consume."

Ms Simson said the end destination for each commodity varied.

"For products such as red meat and wheat, for example, the majority of annual production goes to export," she said.

"Whereas for horticulture, pork and poultry, the focus is domestic markets."

Ms Simson said the report's key take away was that the provision of fresh produce to Australians would always be guaranteed.

"Domestic demand remains relatively stable and export markets are able to accommodate the production fluctuation that comes from operating in the highly variable Australian farming environment."

Ms Simson said as a proud multicultural community with global tastes, Australia's import of speciality goods

provided a level of choice to shoppers.

"However, this report provides evidence that across our nation tonight and every night into the future most families will be sitting down to a dinner of primarily Australian produce," she said.

"Australians can take pride in the high quality, safe, plentiful produce our farmers provide and which is vital to our everyday wellbeing."

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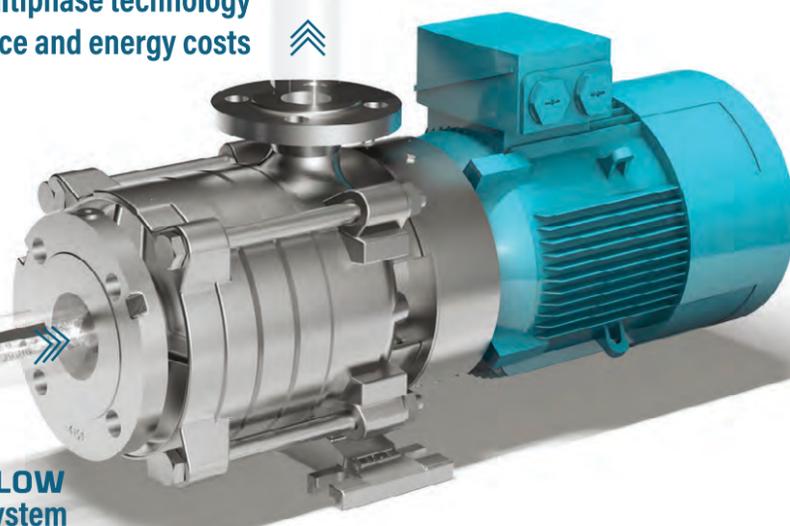
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ANZ victory in 2020 WorldStar Packaging Special Awards

THE Australian Institute of Packaging has announced two short-listed Australian and New Zealand companies have received the 2020 WorldStar Packaging special awards in their categories.

The other two Australian and New Zealand finalists were awarded silver and bronze awards.

Australian Hazeldene's Chicken Farm and sealed air for Cryovac Darfresh on tray vacuum skin technology received the gold 2020 packaging that saves food special award.

The packaging was engineered to address food safety, extend shelf life 25 percent over the previously used modified atmosphere packaging format and improve on-pack communication.

PACT Group for the New Zealand brand

Lewis Road Creamery PCR 100 percent-recycled PET milk bottle range received the gold 2020 sustainability special award.

The silver award in the same category went to Woolworths Australia for replacing plastic trays with pulp-based trays in all stores for over 50 of its in-store bakery products.

The bronze winner of the 2020 World Packaging Organisation president's award was Plantic Technologies for the Plantic RV material, designed for the Moana seafood company to enable supply of fresh fish to the online meal delivery company My Food Bag.

This was the first time an Australian and New Zealand entry had won an award in this category.

Winners from across Australia and New

Zealand received the highest number of special awards and the third-highest number of WorldStar Packaging Awards in the world this year, with a total of 21 awards.

This was a significant achievement for the Australian and New Zealand packaging industries, and for the Australian Institute of Packaging who has led the annual Australasian Packaging Innovation and Design Awards, which are the exclusive feeder program for the WorldStar Packaging Awards for the region.

Entries for the 2021 Australasian Packaging Innovation and Design Awards will be open in late 2020.

Due to the pandemic, the winners will receive their special awards at Interpack in Dusseldorf Germany on February 26, 2021.



Chicken giant cites unprecedented challenges from COVID-19

THE ASX-listed chicken producer Ingham's said the boost from panic buying at supermarkets has stopped and demand for its products has been hit by COVID-19 restrictions.

Ingham's said it had been on track to record better earnings this half than in the first half of the financial year, but warned market volatility made it hard to predict what would happen with demand over the next nine weeks.

In its first update to the market since the coronavirus pandemic worsened in March and April, Ingham's said its New Zealand division had been on track for a better result this year than last,

but warned COVID-19 lockdown rules in New Zealand meant this was uncertain.

Ingham's chief executive Jim Leighton said, "Initially in Australia COVID-19 restrictions created a temporary surge in retail sales but as consumer behaviour normalised, store traffic has decreased and shopping behaviours altered."

"COVID-19 has presented unprecedented challenges and we have executed a swift realignment of our supply chain and operations in order to manage substantial operational issues created by mandatory social distancing protocols."

"This had increased costs, inefficiency and

complexity, and stopped the production of some valuable products."

The company placed a freeze on new hires, deferred capital expenditure and reduced discretionary spending to manage costs.

Ingham's told the market it had a strong balance sheet and good access to liquidity and funding.

Ingham's recorded an underlying EBITDA of \$91.7 million in the first half.

Market consensus had been for full year EBITDA of \$190 million.

In a note to clients Citi analyst Craig Woolford said, "The company noted quick service restaurants and foodservice channels are down, as

well as wholesale.

"We expect these trends accelerated in April as the social isolation directives were in place across the month."

"We estimate these channels account for about 40 percent of volumes, but could be over half of earnings."

Ingham's is one of Australia's two biggest chicken meat producers, with its products stocked by McDonald's and KFC, supermarkets and many small businesses such as cafes and take-away outlets.

The company's shares closed down 0.9 percent at \$3.38 on a day the Australian stock exchange rose 1.4 percent.



More eggs and lower emissions report released

A LAYING hen in 2020 lays 38 more eggs per year than a hen did 20 years ago, and it does so despite consuming 5 percent less feed.

That equals an extra 800 million eggs each year across Australia's national flock, produced with 42,000 tonnes less grain and an emissions saving of 30,000 tonnes of carbon.

These improvements are highlighted in the latest Australian Egg industry sustainability report released March 2020, which demonstrates how the egg industry is progressing in important areas such as environment, hen welfare, food security and rural livelihoods.

Other advancements include biosecurity improvements through a new virtual-reality training module for farm workers, a solar energy feasibility tool, animal husbandry training for every egg farm in the country, and new waste management technology turning manure into high-grade organic fertiliser.

The report released by Australian Eggs, the egg industry's national research body, comes after CSIRO researchers can-

vassed the views of thousands of Australians to help egg farmers better understand evolving community expectations.

Australian Eggs managing director Rowan McMonnies said the industry is lowering its carbon footprint and better conserving resources in line with evolving mainstream community expectations.

"Eggs are in 95 percent of Australian households and are a staple in the national diet," Mr McMonnies said.

"While eggs already have a low carbon footprint relative to other farming industries, the CSIRO's community research revealed that Australians expect to see all industries reducing their impacts over time."

"Productivity improvements in the egg industry have coincided with a lowering of an already small environmental footprint through better genetics, improved farm management, uptake of on-farm solar and new waste management technologies."

"Sustainability is more than just good environmental stewardship, so we've also invested in a significant up-skilling of the national egg farm workforce to raise animal

husbandry standards, and created a new risk assessment tool to help farmers stay profitable.

"We're making these improvements because they're the right thing to do but it was pleasing to see in the CSIRO's community research report that trust in the egg industry increased over the last year."

The 2020 sustainability

framework report completes the second annual cycle of a three-year program of engagement with Australians, designed to ensure the industry farms eggs in a manner that is socially, environmentally and economically sustainable.

The full report is available by visiting australianeggs.org.au



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The long-term benefits of short-chain poultry farming

A SHORT-CHAIN poultry unit in the Netherlands is changing public opinion and proving that poultry production can be done sustainably, ethically and affordably for everyone.

Third-generation farmer Marcel Kuijpers runs an innovative poultry unit with his two brothers and two nephews in the town of Grubbenvorst Netherlands.

One of the main focuses of the Kuijpers Kip brand is animal welfare, an issue that Kuijpers said is extremely important to him, alongside driving for sustainability and affordable food for all.

The farm was originally located on a different site, with poultry houses that were built in 1956 by Kuijpers's father and uncle.

The previous systems were dismantled about 20 years ago to make way for one large, all-inclusive short-chain.

"In 2000, we decided to work towards removing the transport element from the production chain as it struck us that the broilers had to be driven to slaughter, and we never heard anything back except their weight and the price," Mr Kuijpers said.

"We thought, if we can skip all of the transport, it will be better for people, the animals and the earth."

This became the starting point in developing a whole new strategy – adopting innovative practices became a target for the business, with the overall aim to create a short-chain system where birds are hatched, grown and slaughtered on a single site.

"We were very ambitious and everyone said we were crazy."

The first step was to build a hatchery system that allowed the chicks to be hatched in the houses they would then stay and grow in.

This was the first of its kind and the system had to be built from the ground up.

The hatchery was set up so the birds are born in the sheds they will stay in until slaughter – removing the need for any transportation.

Living on six vertical layers, the birds are on wood shaving and can access water and food as soon as they are hatched.

At the end of the life cycle the birds are caught automatically and stunned on their way to the slaughterhouse, so there is no stress and no transport issues.

"This means there is better meat quality and higher animal welfare," Mr Kuijpers said.

The system also means no antibiotics are required at all.

"When the birds are hatched this way, they have a higher immune response which is scientifically proven to provide a higher vitality against diseases.

"The housing set up also means that because there are no draughts, there is no respiratory disease."

A comprehensive care plan is in place for animal health and welfare, and a veterinarian is employed to work with the birds through their life cycles.

The hatchery is also set up with Inno+ air scrubbers, which results in minimal emissions from the poultry houses.

"The air scrubbers have been transformed to become an energy source, which collects the heat from the birds during

their growing stages – including the smells, dust and ammonia – and produces heated air for the hatching birds.

"It means the fattening birds heat their own brothers and sisters."

This is another way for the farm to be sustainable.

"We didn't want to use fossil fuels and so designing this family warmth system has worked out very well."

To become sustainable in other ways, the roofs of the barns are fitted with solar panels that have a total capacity of 1 megawatt, which means the site is self-sustaining.

Initially the family took out an intellectual-property patent on the hatchery design, but on reflection Kuijpers and his brothers decided this didn't tie in with the business's mission statement of 'lovely food for everyone'.

As a result they made the patent available for others to use.

"We want everyone to be able to have decent, healthy and tasty food that is not damaging to animal welfare or the environment.

"It's not in conflict with my mission to let people copy me – it's about sustainability in every way and not just thinking about myself."

The Kuijpers family has proven the sceptics wrong. They currently have space to produce 250,000 broilers, and a farm with 85,000 parent-stock that can produce up to 4 million hatching eggs.

"We export many of these but the next stage of expansion on our site will see the farm grow to house 1 million broilers," Mr Kuijpers said.

"Our consumers want fresh birds and the way

the system works means we have fresh meat every day as we keep numerous different ages on the farm – this is why we built such a big farm."

The next step for the business is to build a slaughterhouse on the site, but the aim is to keep it as small as possible.

"We want to be able to slaughter about 4000 birds an hour, which will be 32,000 birds a day over an eight-hour day with the total 1 million birds split across 16 ages."

There is demand to visit the farm and Kuijpers has several videos on YouTube to answer the questions he is regularly asked.

"Three times a day I get asked to organise excursions to the farm, which is why we made a film and so we can spread the news."

In addition, Kuijpers organised a symposium in October 2019 to get the discussion on food production rolling again.

"Discussions about meat often get hijacked by animal welfare, so we wanted to take the discussion back in hand.

"We know about animal welfare, are responsible and take it very seriously."

The symposium aimed to demonstrate the farm model is sustainable and provides a nice environment for the birds.

Despite the criticism from animal welfare groups, Kuijpers believes the sustainability approach will win in time.

"More and more customers want to buy our meat and we are growing, but we don't want our customer base to grow faster than we do."

Melanie Jenkins



Executive order keeping meat plants open despite coronavirus fears

US President Donald Trump has ordered meat-processing plants to stay open to protect the food supply in the US, despite concerns about coronavirus outbreaks, drawing a backlash from unions that said at-risk workers required more protection.

With concerns about food shortages and supply chain disruptions due to COVID-19, Trump issued an executive order using the Defense Production Act to mandate that the plants continue to function.

The world's biggest meat companies, including Smithfield Foods Inc, Cargill Inc, JBS USA and Tyson, have halted operations at about 20 slaughterhouses and processing plants in North

America as workers fall ill, stoking global fears of a meat shortage.

The order is designed in part to give companies legal cover with more liability protection in case employees catch the virus as a result of having to go to work.

Tyson Foods chairman John H. Tyson said that the US food supply chain was breaking and warned of the potential for meat shortages.

Before issuing the executive order, Trump told reporters that signing the order "... will solve any liability problems" adding "And we always work with the farmers. There's plenty of supply."

The executive order said the closure of just one large beef-processing plant could result in

10 million fewer individual servings of beef in a day.

"Such closures threaten the continued functioning of the national meat and poultry supply chain, undermining critical infrastructure during the national emergency."

A senior administration official said the US government would also provide guidance to minimise risk to workers who are especially vulnerable to the virus, such as encouraging older workers and those with other chronic health issues to stay home.

Unions were not impressed.

Farmers said it was too late because pigs had been euthanised instead of the pork going to market.

United Food and Com-

mercial Workers International Union said, "While we share the concern over the food supply, the executive order to force meatpacking plants to stay open must put the safety of our country's meatpacking workers first."

UFCW demanded the administration compel meat companies to provide the highest level of protective equipment to slaughterhouse workers and ensure daily coronavirus testing.

The senior administration official – speaking on condition of anonymity – said if action were not taken the vast majority of processing plants could have shut down for a period of time, reducing capacity by as much as 80 percent.

Critics of Trump's order made clear that plants were being shut down for a reason.

Retail, Wholesale and Department Store Union president Stuart Appelbaum said, "When poultry plants shut down, it's for deep cleaning and to save workers' lives."

"If the administration had developed meaningful safety requirements early on, as they should have and still must do, this would not have become an issue."

The administration official said the White House worked directly with executives from the meat-processing companies to determine what they needed to stay open safely, adding there were enough workers who could safely go to work

and ensure the supply chain continued to churn.

UFCW said more than 6,500 meat- and food-processing workers have been infected with or exposed to the new coronavirus, and 20 have died.

The North American Meat Institute has backed the signing of the executive order.

NAMI president and CEO Julie Anna Potts said, "By keeping meat

and poultry producers operating, the President's executive order will help avert hardship for agricultural producers and keep safe, affordable food on the tables of American families.

"The safety of the men and women working in the meat and poultry industry is the first priority.

"And as it is assured, facilities should be allowed to re-open."



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Farm life with chooks, dogs Marcie and Jojo, and Jenni and Corrynn Millar at Aunty Rinn's Free Range Eggs at Millthorpe. Photo: Mark Logan

Egg producer adapts sales strategy due to coronavirus

WHILE the coronavirus pandemic has radically changed human life, it hasn't affected chickens.

And while they keep laying, egg farmers have had to adjust to new methods of selling.

When Corrynn Millar saw her restaurant trade dwindle and markets shut she had to turn to deliveries and the firm's regular retail outlets.

"Restaurants are taking less than half of what they were," Mrs Millar said.

Mrs Millar runs Aunty Rinn's Free Range Eggs at Millthorpe and said sales rose when the social distancing laws came in.

"We're still quite busy," Mrs Millar said.

"Sales are back to normal now.

"Our 1500 chooks produce about 850 eggs

a day."

She said she sold through two butchers and a cafe in Orange and was also delivering eggs to customers' doorsteps.

Mrs Millar said she had been selling at farmers markets to clear excess eggs but with social distancing protocols that had stopped.

"I will have to get creative with more online," Mrs Millar said.

Industry body Australian Eggs said an initial spike in egg buying by consumers when the pandemic erupted had subsided.

Managing director Rowan McMonnies said suppliers were producing plenty of eggs to feed Australia.

"Australia's 21 million hens are still laying eggs and farmers are working around the

clock to get those eggs to their customers," Mr McMonnies said.

He said there would be enough eggs to meet consumer demand through autumn and winter.

Meanwhile the egg industry is seeking consumer input into its future with a survey to be conducted by the CSIRO.

CSIRO senior research scientist Dr Kieren Moffat said community attitudes were changing.

"We know Australians eat a huge number of eggs and we also know the way those eggs are produced is an issue people care deeply about."

To participate in the research, go to the CSIRO website and fill out the survey.

The survey closes on Friday, June 5.

Lessening the impact of prolonged hatching egg storage due to COVID-19

THE COVID-19 pandemic is causing widespread market disruptions.

While some countries are more affected than others, global demand for poultry meat has dropped because restaurants and fast-food chains have closed.

Some governments have banned imports of poultry meat to protect their country's internal market and processing plants are calling for a reduction in chick placements of 15 to 25 percent in an attempt to stabilise the market.

In addition, the closure of many traditional wet markets is having a dramatic effect on the poultry sector in less developed countries.

While difficult to predict the situation ten weeks from now – the time it takes between a hatching egg being laid and broiler meat reaching the market – in anticipation of the situation continuing, several hatcheries have reduced the number of eggs set.

To reduce the supply of hatching eggs to the hatchery, older flocks can be culled earlier and for younger flocks forced moulting may be an option.

Needless to say, this is not the time to send floor eggs to the hatchery or to be sloppy with egg grading.

When hatching eggs are supplied continuously,

each day they are kept in the storage room adds to the eggs' age.

This has a negative impact on hatchability and chick quality once the eggs are set.

The consequences of prolonged egg storage include reduced internal egg quality – watery albumen and weaker yolk vitelline membrane; egg weight loss due to evaporation of water; reduced viability of embryo and thus lower hatchability; reduced chick quality – especially navel – and strong indications of reduced farm performance; and longer incubation times.

Best practice is to set hatching eggs two to three days after laying.

Avoid storing eggs for longer than seven days.

If they need to be stored for longer than 10 days, there are some practical measures available for reducing the negative effects of prolonged egg storage.

When minimising the impact of prolonged hatching egg storage, where storage beyond 10 days is the only option, the aim is to maintain the highest hatch potential.

To do this you need to preserve the quality of the albumen and the yolk and, most importantly, the quality and vitality of the embryo as much as possible.

The three tips to minimise impact are:

Tip 1

Create optimal storage conditions:

- 12 to 14C
- 80–85 percent RH
- Aim for uniformity by allowing some circulation of air and keeping trolleys 10cm from wall
- Avoid direct air flow from cooler or humidifier over eggs

• Be aware of 'sweating' when eggs are moved to setter room for incubation or for heat treatment

• Bear in mind that reducing the temperature of an egg storage room on a

breeder farm might not be a good idea.

Tip 2

Store eggs sharp-end-up if possible – alternatively turn them two to four times per day as is done during incubation.

Tip 3

Apply one or more heat treatments during storage – that means heating up the eggs uniformly to at least 32C for some hours.

The above measures can definitely help to minimise the negative effects of prolonged egg storage, but best results will still be achieved by setting fresh eggs.

If – when regular setting at normal capacity commences again – your egg store still contains large numbers of eggs, it is probably better to take the painful decision to get rid of your old stock by passing the eggs on to the egg industry, rather than resigning yourself to sub-optimal hatchability and chick quality.

Gerd de Lange, Pas Reform



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