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The Australian Steelers team comprised Adam Stratton, Paul Brady, Michael James, Nick Dagg, Tom Bouchier and Colin Garrett.

Australian Steelers compete in international butchery battle

IN an impressive cutting showdown, France has taken out the World Butchers' Challenge for the first time.

Our national butchery team, the Australian Steelers, battled hard in an intense three-hour test match against the best butchers from the UK, France and New Zealand, however, France had the cutting edge on the day.

Despite the loss, team captain Michael James said he is incredibly proud and overwhelmed by the effort put in by the team.

"Each and every member of our team worked extremely hard today and I know we have plenty to be proud of," he said. "We certainly stepped up our game and I'm positive the result was a close one."

"We've shown the world, not to mention our own industry, just what we're capable of and I'm extremely proud of the guys."

Each team had three hours to turn a side of beef, pork and a whole lamb into value-added cuts, which were displayed and judged against each other.

Australian judge Trevor Saville said the Australian Steelers were unlucky on the day as the top spot was only narrowly missed.

"The competition was extremely close, especially between the French and the Aussies," he said.

"They were so close but the French proved themselves to show innovation and creativity above all others."

The 2016 Australian Steelers, sponsored by Australian Pork, comprised:

- Tom Bouchier, Peter Bouchier Butchers of Distinction, Victoria;
- Paul Brady, Tender Gourmet Butchery Macquarie, NSW;
- Nick Dagg, The Heights

Boutique Butchery, Queensland;

- Colin Garrett, Colin's Butchery, NSW;
- Adam Stratton, Tender Gourmet Butchery Hornsby, NSW; and
- Michael James, Carina North Quality Meats, Queensland.

The competition began in 2011 as a trans-Tasman test match, with Australia taking home the title in the first two consecutive years.

This is the first year France has competed in the World Butchers' Challenge. 🐷



Paul hard at work during the competition.

A funny thing happened

OUR next twice-yearly Delegates' Forum is due to take place in Melbourne on November 16, 2016.

This will be the first forum for our new batch of delegates, newly elected as of early September.

With a total of 36 delegates, seven of whom having not been delegates before, we are looking forward to some great ideas in the room and hearty discussions.

We are already starting to put the agenda together for the November Delegates' Forum.

Our China Strategy will be one issue for discussion.

For China, we are presently working on two objectives.

The first is to successfully negotiate trade protocols, which is a government to government discussion that Australian Pork Limited is hoping to facilitate.

The second is to get to understand the Chinese market and to develop a premium pork product from Australia that meets the needs of the upper-end consumer in that country.

These are not short-term objectives and we expect to be working on these for a number of years to come.

Over the past couple of years, delegates have become used to seeing the presentations from Peter Haydon on issues around pork supply and demand in Australia.

Demand is presently strong for our product and is outstripping supply possibilities. Prices are therefore pretty good.

There is plenty of investment happening in our industry that will result in increased production, so APL's job to continually increase demand is one that will challenge us in years to come.

Pete will be talking to delegates about how we plan to do this.



Point of View

by ANDREW SPENCER CEO



The ongoing membership recruitment process and the just-finished delegate voting process has prompted our ideas about how to improve the system for the next time we go through it in three years.

When all pig movement reporting becomes mandatory through PigPass in state legislation, we will have a unique ability to understand the levies each pig farmer is paying.

We envisage a future membership process whereby present members can retain membership without reapplying as long as they are still involved in the industry and their levies can be calculated from PigPass movements.

This will require constitutional change but it will significantly reduce the burden of membership renewal every three years for our pork producers.

We'll be testing these ideas through delegates in November.

At the last Delegates' Forum in May, it was decided that through APL, the pork industry would seek to facilitate the commencement of a process to review the welfare standards and guidelines for our industry.

At the forum, we'll be updating delegates as to where we are with this process

and describing the working group that we put together to develop what we believe should be the future standards for welfare management for Australian pig producers.

APL members shouldn't feel left out of Delegates' Forums.

A number of years ago, the APL Board decided members would be invited to Delegates' Forums, where they can participate in most of the discussions, at their own cost.

In association with the November Delegates' Forum, the Annual Conference and Annual General Meeting is also held, with members encouraged to participate.

To get a broader variety of ideas in the room, it's also now APL policy to sponsor the attendance for each state of a young pork producer and a smaller pork producer, as well as a representative of the relevant state farming organisation.

This helps to get a wider understanding across the whole industry of what APL is up to and how we add value to the hard work that happens on Australian pig farms.

I look forward to catching up with our new delegates and maybe a few members at the meetings in Melbourne during November. 🐷

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**Pig Industry
Calendar of Events**

2016

OCT11 – Doing It Outdoors – Sustainable Outdoor Pig Production Workshop, Bendigo, Victoria Ph: 0419 787 137

OCT 12 - 15 – World Nutrition Forum 2016, Vancouver, Canada www.worldnutritionforum.info

OCT14 – Doing It Outdoors – Sustainable Outdoor Pig Production Workshop, Lismore, NSW Ph: 07 4615 4690

OCT19 – Doing It Outdoors – Sustainable Outdoor Pig Production Workshop, Albany, WA Ph: 07 4615 4690

OCT 18 - 20 – PorkExpo 2016, Foz do Iguacu, Brazil www.porkexpo.com.br

OCT 19 - 20 – Animal Health Investment Asia, Hong Kong, China www.animalhealthasia.com

OCT 19 - 20 – Vietstock 2016, Saigon, Vietnam www.vietstock.org

OCT 19 - 20 – European Congress of Virology, Hamburg, Germany www.eurvirology2016.eu

OCT26 – Doing It Outdoors – Sustainable Outdoor Pig Production Workshop, Temora, NSW Ph: 0419 787 137

NOV 3 - 5 – IX International Symposium on Mediterranean Pig, Portalegre, Portugal www.9sympmedpig.com

NOV 15 - 18 – EuroTier, Hanover, Germany www.eurotier.com

2017

JAN 3 - 5 – Oxford Farming Conference, Oxford, United Kingdom www.ofc.org.uk/conference/2016/2016-conference

JAN 17 - 18 – Minnesota Pork Congress, Minneapolis, USA www.mnporkcongress.com

FEB 25 - 28 – AASV Annual Meeting, Denver, Colorado, US www.aasv.org

MAR 15 - 17 – VIV Asia, Bangkok, Thailand www.vivasia.nl

APR 4 – Fira de Barcelona Recinto de Gran Vía, Spain www.livestockforum.com

AUG 29 - 31 – SIAVS - International Poultry and Pork Show, São Paulo, Brazil www.siavs.org.br/?lang=en

2018

MAR 3 - 6 – Annual Meeting of the American Association of Swine, San Diego, California, US www.aasv.org/annmtg

How to supply event details: Send all details to Australian Pork Newspaper, PO Box 387, Cleveland, Qld 4163, fax: 07 3821 2637, email: ben@porknews.com.au

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Moving forward – filling RD&E gaps in 2017/18

THE RD&E process at Australian Pork Limited involves identifying RD&E priorities, calls for research proposals, reviewing of research proposals and the commissioning and management of research projects.

The calls for research identified a number of priorities that were included in the call for R&D proposals for 2016-17.

Submission, review and notification processes have all been completed and I am happy to announce that projects to address the following priorities have been supported.

A proactive welfare agenda and continuous improvement programs

Producers always try to maximise the welfare of the pigs under their care.

The research that industry invests in, and the knowledge and outcomes produced, all feed into a system of continuous improvement.

The Australian pork industry has specific welfare considerations, which we are refining through industry and stakeholder engagement.

Our industry's objectives for welfare are to uphold the duty of care to the animals we produce, to support producers by providing information and research outcomes and inform our stakeholders about our activities and achievements.

These goals will be achieved by taking the lead and addressing the requirements of our pigs because we believe it's the right thing to do.

One of the issues industry faces is how to measure welfare accurately at a pen-side level.

Currently there are a



by **HEATHER CHANNON**
Acting Research and Innovation
General Manager



limited number of welfare biomarkers used in animal welfare research to assess pain and welfare outcomes.

Projects in this area will evaluate welfare biomarkers for their suitability in pain assessment on farm.

The continuous welfare improvement program, focusing on farrowing and lactation management and in particular the lactating sow's metabolic state, will be addressed by investigating technologies that can provide immediate measures of feed and water intake.

The outcomes of this project will have the potential to improve knowledge of a sow's ability to cope with the demands of lactation.

Addressing seasonal infertility

Over time, significant effort has been spent on understanding and ameliorating the effects of seasonal infertility, which varies markedly from farm to farm, even within the same area and with similar genotypes.

Seasonal infertility is being addressed through projects that will come up with an easy-to-implement dietary strategy for lactating sows that will improve the reproductive performance of the sow.

Management of heat stress

Heat stress negatively affects pigs in all stages of production.

When environmental conditions exceed thermal neutral zones, energy is diverted away from protein synthesis to the maintenance of body temperature, thereby impacting on welfare and reducing efficiencies.

This project will provide much better information to understand and mitigate heat stress.

Explainer videos planning

This project will develop two videos (conventional and outdoor production) that will highlight the broad planning requirements, key risks and identify science-based industry guidelines that can be used both by producers and decision makers during an assessment process.

Soil sustainability indicator extension material

This project will develop tools that clearly explain what soil parameters mean (how to read soil tests and what it means for a site) and identify sustainability indicators that could trigger further investigation.

Development of new ERF methodologies

Three new ERF methodologies will be developed, which could create car-

bon credit and alternative revenue opportunities for producers.

The three methodologies will focus on short hydraulic retention time systems, alternative systems (straw-based and outdoor) and increased ADG and FCR.

Anaerobic pond sludge profiling and behaviour

Two projects are combining to investigate on-site sludge profiling and behaviour in order to better determine desludging trigger points and pond design.

They will include the development of a hydrodynamic model that will be used to help understand and design ponds in the future.

Evaluation of R&D needs for water management

A framework that can be used by industry to identify and pursue water reuse/recycling opportunities will be developed in this project.

It will look at the benefits of treating water to a particular quality and allow a better match of technologies to optimise capital and operating expense.

Struvite review

This project will run concurrently with a current APL project that is investigating new fertilizer formulations.

It aims to fast track the project by undertaking a review that will identify whether new struvite separation technology can be up-scaled to farm pilot scale.

Bubble column opportunities

An APL project previously identified the potential for a new on-farm water purification system.

This project will undertake a more in-depth re-

view of the system in relation to the specific needs of the industry.

If the results of the review are favourable, APL will work with the developers to further progress the system for the Australian pork industry.

Feral rodent control

Few studies have been published to support endeavours by the Australian pork industry to understand key issues and manage risks associated with the use of rodenticides to control rodent populations in piggeries.

Communication strategies also need to be implemented to ensure pig producers are aware of, and act upon, recommendations to mitigate risks of rodenticide contamination.

To assist industry, a series of workshops has been commissioned.

Outcomes will include feasibility assessments, which will include a range of issues (cost, environmental issues, social acceptance, ease of use, animal welfare, practicality and so on), with the report and recommendations circulated to producers.

Current biosecurity practices and attitudes of peri-urban producers

A project has been commissioned that will gather information on current practices and attitudes towards biosecurity and the communication networks of small-scale pig producers who are not part of the PigPass NVD system.

This information will support the development of targeted extension strategies for improving producer engagement with biosecurity, traceability and animal health management.

continued P3





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SARDI's Dr Kate Plush with colleague Dr Cameron Ralph at APSA 2015. Dr Plush was part of a Pork CRC project team that investigated how to reduce aggression in group housed pregnant sows.



Prof Paul Hughes, Pork CRC PhD candidate Emma Greenwood and Prof Paul Hemsworth, leader of Pork CRC Subprogram 1C 'Management of sows in groups', caught up at the 2014 Pan Pacific Pork Expo, where they earlier discussed how to go about reducing aggression in group housed gestating sows.

It's cool to be cool this summer

IT happens once a year and while the outcomes differ year to year, summer infertility remains a problem for many businesses.

It's therefore best to start thinking now about strategies for this summer.

How well you prepare for a likely hot summer will reflect positively in your pigs and your profitability.

The Pork CRC/Australian Pork Limited publication 'Preparing for the Summer Months: Seasonal Infertility and Beyond' is a good place to start.

The manual is quite comprehensive and is accessible on the front page of our website (www.porkcrc.com.au) through to the end of February.

I urge you not to leave it until then, as it might be too little, too late.

Messages from the manual and globally are:

1. Boar stimulation for gilts and weaned sows is critical and should commence the day of or day after weaning;
2. Include betaine at 2kg/tonne in lactation diets. Discuss with your nutritionist the use of betaine and additional vitamins in the gestation diet during summer;
3. Attempt to maximise intake in lactation and discuss with your nutri-



Initiatives

by DR ROGER CAMPBELL
CEO



tionist raising the amino acid level of the lactation diet to minimise body protein loss during lactation;

4. Ensure sows have feed available overnight and are fed first thing in the morning;

5. High-level feeding from weaning to re-mating;

6. Use every trick you know to keep sows cool;

7. Minimise/avoid vaccinating sows when feed intake needs to be maximised (sows in lactation and weaned sows);

8. Pay particular attention to P1 sows as they have lower lactation intakes and are more sensitive to elevated temperatures and more prone to summer infertility – less room for a decline in intake. See graphs on page 8 of the manual;

9. Read the manual; and

10. Look for take-home messages, then take them home!

Intriguing results

A Pork CRC project (IC 103) started by Prof Paul Hughes and completed by Dr Kate Plush and others from the South Australian Research and Development Institute with assistance from one of our PhD students, Emma Greenwood, has thrown up some interesting findings.

Designed to investigate how to reduce aggression in group housed pregnant sows, it was conducted at the Roseworthy piggery in SA.

Floor space

The researchers found that providing sows with more space (they compared floor spaces of 2, 4 and 6sq m) had no effect on average aggression or most other measures of sow behaviour.

However, injury scores were higher for the lower-ranking sows on the day of mixing at the lowest floor space (2sq m).

Time after mixing had

the biggest impact on aggression, with aggression significantly higher the day of mixing than days one to four after mixing (see Table 1).

The results are similar to those of other Pork CRC projects, confirming that sows adapt rapidly (in this case very rapidly) to mixing and suggest that for sows familiar with group housing, floor space between 2 and 6sq m has little effect on overall welfare, but reduced space may have short-term adverse effects on the welfare of lower-ranking sows.

There were no effects of floor space on sow reproduction.

Pheromone effective

The researchers tested how a pheromone (porcine appeasing pheromone) dispersed from diffusers hung above the mixing pen affected sow aggression.

The results are shown in Figure 1.

Sows in the PAP treatment exhibited significantly less aggression on the day of mixing and through to day seven (when the diffusers were removed) than control animals.

I think the results are surprising and perhaps even amazing.

This may be real technology for favourably modifying sow behaviour in a range of group housing situations and during farrowing and lactation and would be worth trying in ESF systems, although, as one producer questioned at the recent SA Pig Day, how effective might the diffusers be in naturally ventilated sheds – probably worth a try.

The diffusers are available commercially in France and the EU in general and used in weaner and grower facilities and we're looking at who might be interested in considering them commercially in Australia.

It is the only thing I have seen so far, apart from additional space and time, that can reduce aggression at mixing in group housed sows.

Aggressive reproduction

Possibly the most intriguing outcome from the project was the results of a study in which the researchers looked at the effects on aggression and sow welfare at and after

Day after mixing	0	1	3	4	Significance
Fight number	13.8a	4.2b	5.3b	5.5b	P<0.005
Fight duration	20.5a	6.5b	8.0b	7.8b	P<0.00005
Time spent eating (%)	5.8a	7.3b	9.1c	9.8c	P<0.0005
Free cortisol (ng/ml)	9.4a	10.8a	7.6b	6.5b	P<0.05

Table 1: Effect of day after mixing on behaviour and free cortisol levels of group housed sows.

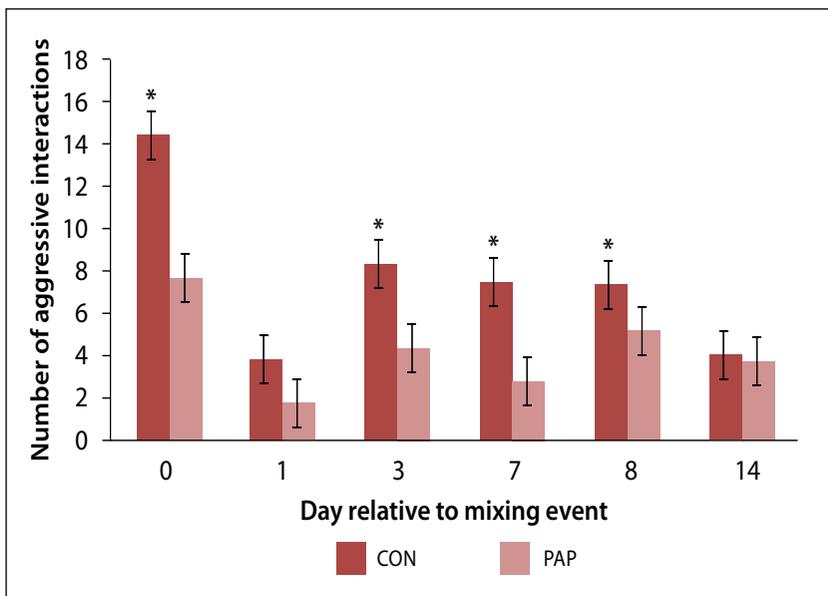


Figure 1: Effects of porcine appeasing pheromone on aggression in sows at and after mixing. *Denotes significant difference between treatments.

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Moving forward – filling RD&E gaps in 2017/18

from P2 Active surveillance for exotic pig diseases

APL routinely responds to inquiries from the Department of Agriculture and Water Resources from our trading partners on the status of the Australian pig herd in relation to the presence of exotic diseases including: porcine epidemic diarrhoea virus, porcine reproductive and respiratory syndrome, classical swine fever, African swine fever, foot and mouth disease, Aujeszky's disease and Japanese encephalitis.

However, the Australian industry does not have active (as opposed to passive or opportunistic) surveillance data that

can be used to demonstrate, and defend, Australia's freedom from exotic diseases.

One of the biosecurity projects in the last tender round aims to address this shortfall through the establishment of a database, to be securely held by APL, to support disease-free claims.

Consistency of methodologies in diagnostic laboratories

Surveillance and reporting of antimicrobial resistance and antibiotic usage in human medicine, veterinary medicine and agricultural production is a global health priority.

To assist with developing a consistent approach in the reporting of diagnostic tests, a

project has been commissioned that will undertake a survey of the diagnostic laboratories that service the pig industry to understand methodologies being used for antibiotic sensitivity testing.

In addition, a joint meeting involving pig veterinarians, medical laboratories and laboratory personnel will be organised to discuss methodologies being used to ensure consistency in antibiotic sensitivity reporting between laboratories.

For further information on any of the topics discussed, please do not hesitate to contact me on 0423 056 045 or heather.channon@australianpork.com.au

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It's cool to be cool this summer



A Pork CRC project found that time after mixing of group housed sows had the biggest impact on aggression, which was significantly higher the day of mixing than days one to four.

Treatment	MS	SEP	WEAN	MAI	Significance
Pregnancy rate (%)	93.3	90.0	91.7	80.0	NS
Total born	13.8 a	12.2ab	12.3ab	11.0b	<0.05

Table 2: Reproduction of MS (multi-suckle), SEP (sow separation), WEAN (grouped after weaning) and MAI (grouped after insemination) sows. Means with differing superscripts a, b, are significantly different from one another.

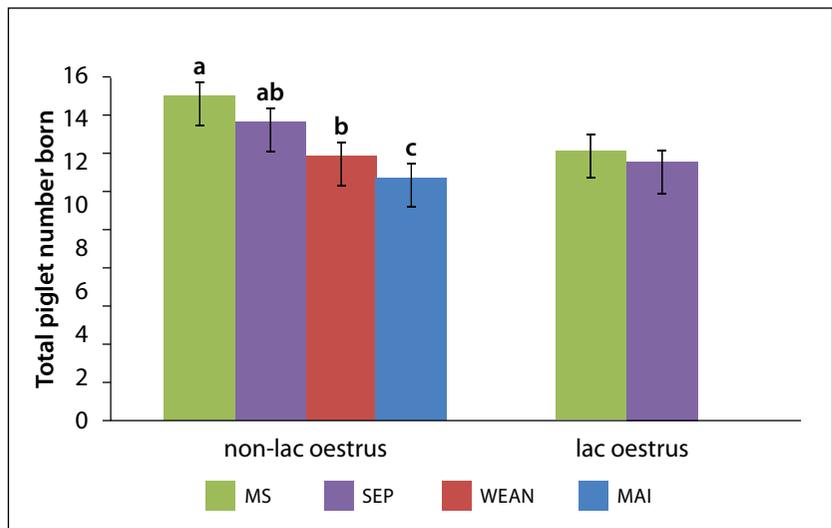


Figure 2: Total number of piglets born to MS, SEP, WEAN and MAI sows that were not mated in lactation (non-lac oestrus) and mated in lactation (lac oestrus). Different superscript letters denote significant differences between treatments.

from P3

mixing in sows mixed at weaning (WEAN), after AI (MAI), or which were placed in groups of six (2sq m floor space) and separated from their piglets for seven hours per day during the last seven days of lactation (SEP) or placed in groups of six with their litters for the last seven days of lactation (MS-multi suckled).

All sows were weaned at day 28.

All sows had 2sq m floor space when grouped after weaning.

The sows in the SEP and MS treatments were given boar exposure during the last seven days of lactation and mated if they expressed oestrus in lactation.

Aggression at and after mixing was lowest in the MS sows and they exhibited no fighting on days one and six after mixing.

More interesting was that about 50 percent of the SEP and MS sows exhibited oestrus during lactation and had the same subsequent reproduction as sows mixed at weaning or after mating.

The treatment results for subsequent pregnancy rate and total litter size are shown in Table 2.

MS sows had a significantly bigger litter than MAI sows.

Interestingly, further analysis showed that MS sows mated after weaning had significantly and markedly larger subse-



quent litter sizes than sows from either of the two weaning treatments.

The results (Figure 2) are interesting and suggest there may be reproductive advantages associated with boar exposure of sows in late lactation and potentially in conventional farrowing systems.

Although based on limited numbers, the results warrant follow-up and are probably worth investigating if similar results can be achieved by exposing lactating sows to boars in the last week of lactation.

Perhaps the researchers have revealed a possible new system for reducing aggression at mixing and improving reproduction.

The results need to be validated at a commercial level.

So, some very fascinating research outcomes by a great group of scientists and students and I haven't even covered Emma's interesting findings on enrichment for group housed sows, but will do in the November edition of APN.

The report is one you should read.

It's available on our

website and I'm also happy to send you a copy if you would prefer.

Call me on 08 8313 7683 or email roger.campbell@porkcrc.com.au

Canada commentary

I don't have time or space this month to cover in detail the more interesting lessons learnt while recently in Canada, but I will do so next month.

However, below is a snapshot of things worth noting:

- Canada and the US are preparing for a tough ending to 2016 and a scary 2017 as pig supply approaches packer (abattoir) capacity;

- Demand for pork in Canada has fallen over the past 15 years;

- COP in Canada and the US in 2015 was \$A2.28 and \$A2.12/kg carcass weight. In Denmark and the Netherlands COP was \$A2.66 and \$A2.95/kg carcass weight respectively;

- Issues and opportunities raised by industry – reduced antibiotic use (a big deal), group housing of pregnant sows and more exports to China;

- Evidence that sow body condition assessed

with a calliper (more objective than condition scoring) has a marked effect on reproduction, with a narrow range for optimum reproduction. I will discuss the findings in some detail next month;

- Introduction of relationship-based genetic selection by PIC has dramatically reversed the decline in birth weight with increasing litter size; and

- The 2016 lactation targets proposed for commercial operations (in the US) by PIC are 15.7 TB, 14.7 BA and 13.7 pigs weaned per farrowing, with a 14.3lb (6.5kg) average weaning weight at 19-22 days of age. Pretty impressive.

Ovugel approved

We were informed at the SA Pig Day that Ovugel (by Pork CRC participant Elanco) has been registered by APVMA for use in Australia.

Ovugel is designed to synchronise ovulation in weaned sows and enable one-shot AI without oestrus detection.

This is great news and it has the potential, especially if used with post-cervical AI, to markedly enhance reproductive efficiency in Australia.

Based on previous Pork CRC research, it might even play a role in reducing summer infertility.

Contact your Elanco rep for more details (www.elanco.com.au).

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Sales avenues in the digital age

GONE are the days where farmers had no other option than to travel far and wide to sell their livestock, feed and supplies.

No longer do people need to make the adventure to a saleyard to buy a pig for production, as a pet or for private consumption.

The age of buying pigs online is well and truly here.

From utilising the sporadic interconnectivity that twitter provides to a more organised Facebook buy, swap and sell group, the sentiment is clear – there is an easy way to scope out what is available before you commit resources to fetching it.

For rookies in the industry or those people looking for a family farm pig, this seems very convenient.

For experts and established producers, this is cause for concern.

This is the age of technology and digital disruption is everywhere.

There is the potential for more people to participate in the pig industry in non-traditional ways and certain information needs to be equally available.

While saleyards will continue to operate effectively across the country and farmers can still trade with neighbours or function as a community co-operative, the industry needs to be aware of the opportunities and risks that come with digital trading, whether they are participating online or not.

Everyone buying, selling or moving pigs needs to be aware of the changing trade environment.

There are new challenges and responsibilities for everyone, established or novice, online or at the saleyard.

For example, as of July 1, 2017, it will be mandatory to report all movement of pigs via PigPass.

Until now it has not been compulsory and people may have been getting by without it.

Those established in the pig world will need to be aware their legal obligations have changed, while it is even more important that those new to the world know what the processes are and what is expected of them.

Regardless if you buy your pig online, at a farm gate or a saleyard, the process and responsibility are the same.

Everyone, expert or novice, needs to be aware of their legal, biosecurity and animal welfare responsibilities.

Rachel Gordon, regional manager at the Livestock Biosecurity Network recently wrote that ‘when buying or selling animals (online), it is important to keep biosecurity at the forefront of your mind... Be aware of your legal obligations’ (Beef Central, September 6, 2016).

If you are buying a pig through an online forum or are new to the world of pigs, there are a few www.porknews.com.au

things you should consider and be aware of.

Are you prepared?

Have you asked for any health records of the animal?

This could help you identify any illness or diseases and pests that you could inherit with your new animal.

Have you read the Biosecurity Manual for Pork Production?

This manual contains information and specific procedures for all pig farmers to follow to help reduce the risk of disease entering a property, spreading through livestock and/or being passed to surrounding properties.

Have you read the Model Code of Practice?

The Model Code of Practice for the Welfare of Pigs outlines minimum standards for the welfare of pigs on farms.

The Code provides a foundation for animal welfare legislation and has been regulated in each state, making it legally enforceable.

It is intended as a guide for all people responsible for the welfare of pigs in both indoor and outdoor production systems.

It also details the responsibilities of those involved with the care of pigs, including their accommodation, food, water and special needs.

You can order a booklet version or download a free PDF of the Model Code of Practice from www.publish.csiro.au/book/5698

Australian Pork Limited created a Companion Handbook to the Model code (www.australianpork.com.au) that provides a practical guide for producers, government regulators and industry stakeholders to interpret and implement pig welfare standards.

So you bought a pig or two...

1. Do you have a property identification code? This is a legal requirement in Australia if you have any livestock at all. Queensland has a two-pig rule but other than that you need to contact your department of agriculture or primary industries and get yourself a PIC.

2. Do you have or need a tattoo or brand? In all states, pigs over a specified weight or age must be branded before being moved off your property. This includes movements to another property, to the saleyards, to a showground and to the abattoirs. The specific requirements vary depending on your state or territory. In Queensland, South Australia, Tasmania, Victoria, and Western Australia your tattoo or brand number will be issued to you by the relevant state authority (usually the DPI). In NSW, you must register your brand number, which is the last six digits of your PIC, with Local Land Services. If you only need to move a small number of pigs – for instance, a pet pig – then please ask

your Local Land Services (NSW only) to brand this pig with a crown brand.

3. Register for PigPass (www.pigpass.com.au). Whether you have one pig, 20 pigs, a pet pig or a Christmas pig, the PigPass system still applies to you. As of July 1, 2017, this will be part of your legal obligations under the relevant state legislation. PigPass is a tracking system used to track the movement of all pigs in Australia. Through this system, a clear picture of all pig movements is developed. This is extremely important in the event of a disease outbreak.

4. Print an electronic PigPass National Vendor Declaration once your PigPass registration has been approved. You can download and complete a NVD up to five days

before pigs are due to be moved, and it is free. Alternatively, you can order and pay for a NVD book online at www.pigpass.com.au

5. Move your pig! A PigPass NVD slip must accompany all movements of pigs during their transportation between the owner and the receiver.

If you have any questions about PigPass, visit the website or call 1800 001 458 for more information.

Did you see the pests and disease sneak in?

On-farm biosecurity is also crucial in preventing the spread and establishment of disease.

When you welcome a new animal onto your farm, you could accidentally be welcoming a whole range of diseases and pests.

This could be costly and very stressful.

Remember to quarantine the new pig for the first month to see whether it shows any symptoms of disease and get rid of any plant seeds in its system before introducing it around the farm.

If you are concerned about your pigs' health, call the Emergency Animal Disease Watch Hotline on 1800 675 888 for advice.

It is important to remember that if in doubt about buying, selling or moving your pigs, call your department of agriculture or primary industries, Local Land Services (NSW only), PigPass (1800 001 458) or APL to be pointed in the right direction.

Meaghan Clack
APL Corporate and Social Media Executive

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Launching Pork CRC's Bioenergy Support Program at Pan Pacific Pork Expo 2012 were Dr Stephan Tait, University of Queensland; Dr Rob Wilson, leader, Pork CRC Program 4 'Carbon conscious nutrient inputs and outputs'; and Stephen Wiedemann, FSA Consulting, Queensland. Dr Tait now leads Pork CRC Program 4 and Stephen Wiedemann is now with Integrity Ag Services.

Right royal presidential pork push in Perth

DESPITE representatives of Harvey Beef mysteriously not showing for a dinner featuring their very own fillet steak (served with mushroom ketchup, balsamic roasted shallots, sweet potato croquette and shi-take jus), the September 29 President's Dinner at the 2016 Perth Royal Show was a very showy affair.

The president is none other than our very own Dr Rob Wilson AM, one of Australia's best known 'pig people'.

Aside from chairing Westpork, one of Western Australia's big three pork producers and, until very recently, a long-term program leader with Pork CRC, not to mention his roles of days long past, including chairing Pig Research and Development Corporation and managing Wandalup Farms way back when it was owned by George Weston Foods, Rob is deep into his three-year term as president of the Royal Agricultural Society of WA.

RASWA's flagship annual event is, of course, the Perth Royal Show.

I'm told the new Taste WA precinct was a big hit this year, with showgoers munching their way through 4000 chicken wings, three tonnes of Harvey Beef ribs, 4500 sliders, 100 litres of award-winning WA olive oil, 100kg of Harvey cheeses, two tonnes of premium fries, 50kg of WA lemons and 100kg of lettuce, spinach and rocket.

Despite 'our very own' Rob Wilson being president, I couldn't dig up much on how much pork was downed, albeit I believe Australian Meat Industry Council gave away



Cant Comment
 by
BRENDON CANT

30kg of pork sausages.

Anyway, back to the President's Dinner where I was joined at the top table by recently appointed WA Agriculture Minister, the Cunnamulla, Queensland-born Mark Lewis.

A member of WA's parliament for a little over three years and only a little over 10 days into his new portfolio as WA Agriculture Minister when the 2016 Perth Royal Show kicked off, it was clear Mr Lewis was on a steep learning curve.

Raised on a farming and cattle property in Queensland, he studied animal production and health at the University of Queensland and worked for the Veterinary Services Branch within the Department of Primary Industries, mainly in the channel country and north Queensland.

In 1996, he moved with his family to Carnarvon in WA's Gascoyne to work

with the WA Department of Agriculture and Food, which 20 years on he now finds himself presiding over at what could fairly be described as a tumultuous time for the agency, as it deals with funding and staff cuts and something of an identity crisis.

No doubt Rob and the new minister will be chewing the P2 fat way beyond the President's Dinner, as Rob also happens to be chairman of Pork Innovation WA.

Recently formed, PIWA is an incorporated body with inaugural members WA Pork Producers' Association, Craig Mostyn Group, Portec Veterinary Services, Milne Agrigroup, Westpork and Dawson Bradford.

PIWA, I understand, will seek funding for research through industry organisations such as Pork CRC, Australian Pork Limited and the Agricultural Produce Commission, as well as other channels which seek to support productivity and competitiveness in the pork industry.

Rob has previously stated publicly that he hopes the combination of external funding and transition funding from the Department of Agriculture and Food, WA will establish PIWA as a viable model for future pork industry research, development and extension in WA.

Let's hope his hope comes to fruition, as RD&E in WA's pork industry deserves to flourish because it has long led by example when it comes to other livestock and meat industries housed within the somewhat-tired corridors of the WA state government's agricultural agency.

Redmond Barry Distinguished Professors

IT is with pleasure I announce the following staff members have been awarded the title of Redmond Barry Distinguished Professor, joining their colleagues announced earlier this year:

- Prof Peter Bossaerts, Faculty of Business & Economics;
- Prof Frank Dunshea, Faculty of Veterinary & Agricultural Sciences;
- Prof Billie Giles-Corti, Faculty of Medicine, Dentistry & Health Sciences;
- Prof Ivan Marusic, Melbourne School of Engineering;
- Prof Geoff Taylor, Faculty of Science;
- Prof Stephanie Trigg, Faculty of Arts; and
- Prof Rachel Webster, Faculty of Science.

This significant achievement recognises professors who demonstrate outstanding leadership in the University of Melbourne and wider community, coupled with pre-eminence in their research, teaching and creative activity.

Please join me in congratulating our colleagues on these awards.

Glyn Davis

What would we do if revenue were certain?

CLEARLY, we are not in a position where revenue is certain.

However, pig producer revenue has been growing for the past few years, driven primarily by price rising ahead of inflation.

Figure 1 shows the slow growth in volume produced (red line) over the past few years, while the green bars show industry gross value of production growing more rapidly than volume growth and that pig prices have grown somewhere above 5 percent each year (12 months to end of June of that year) since 2011.

Clearly, this past year has seen the combination of growing demand and an increasing beef price working together to accelerate pig price growth. In fact, demand increased about 9 percent for 2015 versus 2014 and about 17 percent for 2016 versus 2015.

And while we have not (and probably will not ever) secured the certainty of revenue, this year the plan is to create a number of options that are proven demand creators and put them in our war chest, ready for when we need them.

This raises possibilities that we have not had the opportunity to consider before.

One that has been raised is “should we create a fighting fund for a rainy day?”

It is clear that the world works in cycles, and while it hurts a lot more to lose 20 cents a kilogram than gain 20 cents a kilogram, good times, like bad times, come and go.

Just quietly, I got a lot more calls when prices softened by 20 cents in May this year than when they strengthened by 50 cents several months earlier.

Personally, I'm not currently a fan of the ‘fighting fund’ idea.

It's not that I'm averse to having more contingency resources available, rather my view is there are three key reasons why a fighting fund won't do what it is designed to do:

1. Australian Pork Limited does not control the variables that cause short-term sales – Most producers talk to me as if they think of marketing like a tap; you spend more, you get more sales immediately. That is simply not true! For the marketing levers that APL influences, it will take between 12 and 30 months to be able to demonstrate increased sales.

2. The size of the fighting fund needed would be large – The marketing methods a retail sales and marketing expert would use to sell short-term volume are primarily price and getting our

www.porknews.com.au



Marketing Matters

by PETER HAYDON
General Manager Marketing



product in more outlets. APL does not control consumer prices, retailers do. However, theoretically, to reduce our consumer retail price enough to increase volume sales by 10 percent a week would cost about \$4.4 million a week. To do that and sell enough for the average April increase in production, we would need to perform a retail price reduction of 8 percent for 16 weeks. That means we would need a fighting fund of at least \$70 million. To do that you would have to give APL an extra \$14 per pig for a year. This means that \$70 million of producers' money would sit in APL's bank account, not the producers'. Why would producers do that?

3. Timing is everything – The factors that have combined to accelerate fresh pork's sales momentum since 2010 aren't necessarily repeatable. Having sales momentum is rare and risking giving it up by taking our foot off the gas seems unnecessary. Retail sales already show volume growth has slowed and demand is being converted into retail prices (which tends to benefit retailers more than producers).

The approach we are taking is to create the ability to increase demand in our industry before we need more demand.

If we can combine this with the foresight to know when we will need it, we will be in a better position.

The foresight comes from producers' investment intentions and the lead times it takes to execute those intentions.

If a producer chooses to grow, he or she may need planning permission.

This means there is often two to two and a half years from the producer's decision to invest and having pigs available for sale.

New demand creation is unlikely to require no additional funding (though it is possible), however, we should at least find out what is required and then producers can make their decisions.

These good times offer unique opportunities to make structural change.

As an industry we should be asking ourselves challenging questions such as “how do we test and learn to create new demand before we

need it?”, or “how do we fund those new methods when we do need them?”, and we will get at some point to “how do we structurally reduce costs both before and after the farm gate and open up more domestic and international consumption?”.

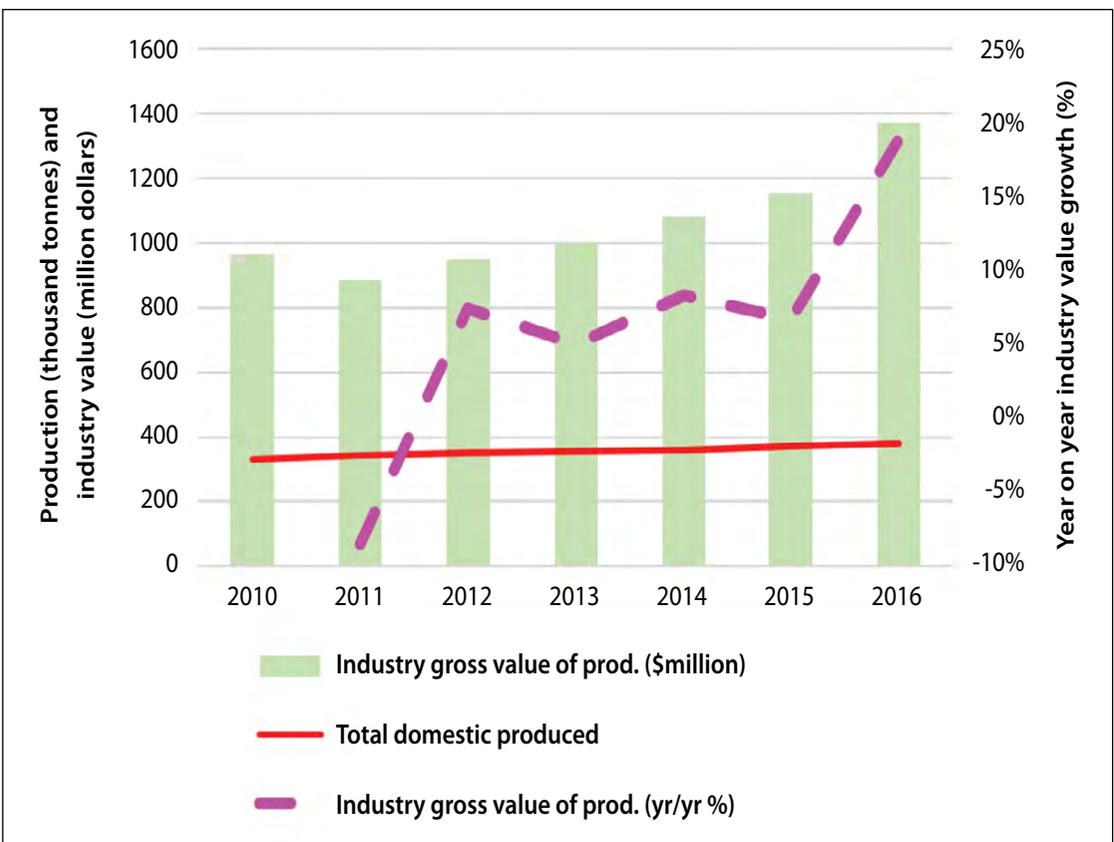
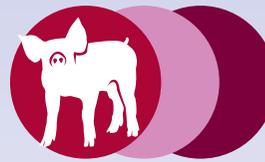


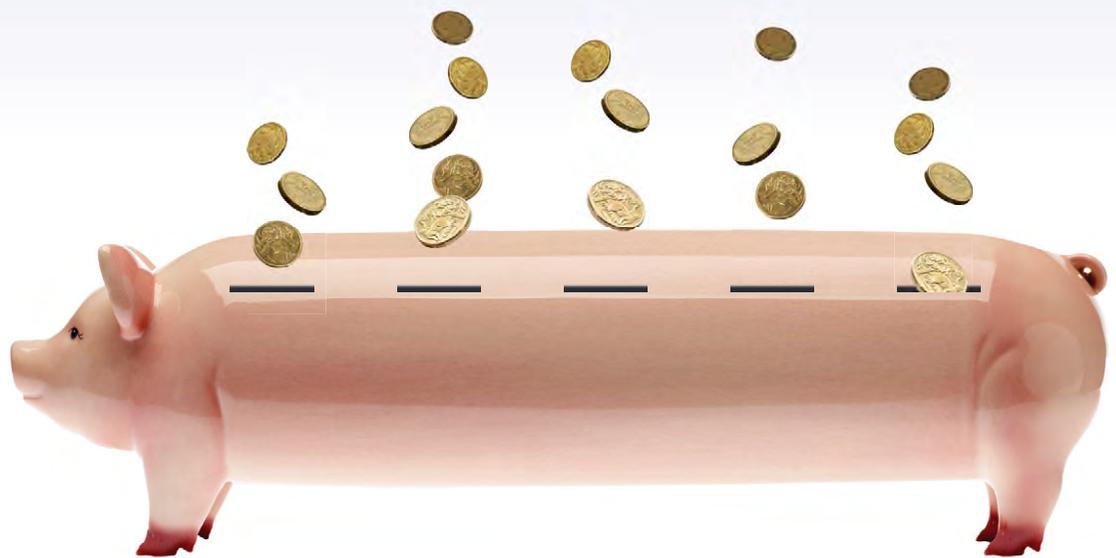
Figure 1

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A Queensland pork industry icon retires

LIKE myself, many people involved in the Queensland pig industry would know Ross Attwood as a long-time buyer of pigs and other livestock, but few would know his greater involvement in our developed industry, so I thought it would be great to tell his story, which I am sure will bring back memories for many.

Ross Attwood, one of nature's gentlemen, started his involvement in our industry while at Queensland Agricultural College, Gatton in the early '60s, feeding 'slops' to pigs as part of his practical requirements while doing his Diploma of Agriculture.

He spent his early career as a trainee auctioneer for Winchcombe Carson in Brisbane and Miles before joining Qld Bacon Pty Ltd as a sheep and pig buyer, covering the Gympie and Burnett districts.

In discussions with Ross, he recalled the beginning of carcass grading when back fat and brisket fat were compared to an aluminium template (and 25mm was considered a prime pig).

This device was then replaced with a set of vernier callipers, which provided more accuracy.

Then of course came Introscope and in turn the Hennessy Grading Probe.

Ross has always promoted a one-on-one relationship with his many pig producer customers and by providing constructive feedback helped producers gain better returns from improved carcass quality.

Following his work with Qld Bacon, he spent nine years with Barry Green-up/Associated Buyers purchasing all species but eventually returned to the pig industry as Livestock Manager for J C Hutton at Oxley in Brisbane.

pork
 QUEENSLAND INC.

President's Perspective

by JOHN COWARD



After Huttons was taken over by Tancred, Ross took a position with Dandy Bacon at Murarie, supporting brands such as Mayfair (Ham and Bacon), Presto and Dandy before this company was taken over by Metro Meats.

Trading as MQF, this was in turn purchased by Nippon Ham, where Ross held the position of National Livestock and Fresh Meat Manager.

When Nippon exited the Australian pork industry in the late '90s, Ross ensured all his loyal suppliers were aligned to alternative markets to continue trading their pigs, as he had desires to take a break from the industry.

However, it wasn't long before he had a role in as-

sisting Booyong abattoir develop pig marketing.

This was followed by the final chapter in his working career with a long stint with David Collins Wholesale Meats at a new operation at Lowood west of Ipswich.

With such a long and connected time in the industry, he finished his working life with an old colleague, Allister Stevenson, who is now the owner of Collins Meats.

At 69, Ross has finally hung up his boots and informs me he is enjoying his regular Monday vets golf day, travelling and generally enjoying retired life.

From Pork Queensland Inc and our industry: best wishes Ross, and thanks for the friendships and memories. 🐷



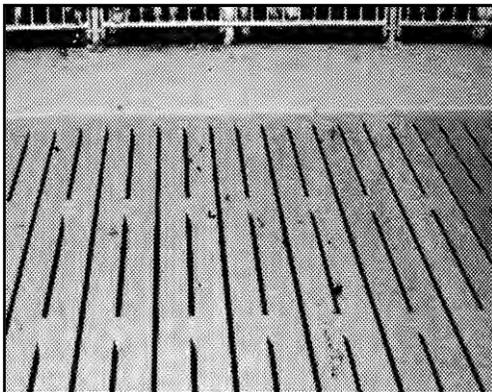
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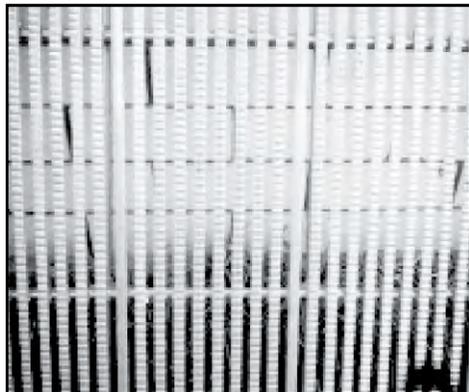
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Heather's healthy pork outlook

HEATHER Channon took over as leader of Pork CRC Program 3 'Healthy Pork Consumption' from Dr Darryl D'Souza in November 2015.

She is also Subprogram 3C leader.

Program 3 objectives are:

- Deliver optimal pork quality for multiple markets (Subprogram 3A);
- Define inherent properties of Australian pork to enhance consumer health (Subprogram 3B); and
- Increase market demand for high-integrity Australian pork (Subprogram 3C).

Heather is very familiar with Program 3, particularly as the Pork CRC, through Subprogram 3A, has funded studies that make up her experimental program for her PhD she is completing at the University of Melbourne.

Heather's PhD has been evaluating different pathway factors (production through to cooking) and their interactions in order to improve the eating quality consistency of pork cuts.

Her studies have demonstrated that the eating quality of pork cuts from immunocastrated males are comparable to, or better, than those from females.

The fail rate of loin steaks from immunocastrated male pigs has also been shown by Karen Moore (as part of Pork CRC project 3A-101) to be markedly lower than those from entire male pigs.

While the immunocastration vaccine in Australia is now being widely used, the ability to rapidly detect boar taint-affected carcasses in real time (including those from pigs which may have inadvertently missed being treated with the second vaccine) continues to evade the pork industry globally.

The use of handheld infrared (NIR and MIR) spectroscopy is being investigated by Dr Cameron Ralph and Dr Glen Fox in a Pork CRC innovation project (3A-115), and this approach is showing some promise.

Eating quality

Concerningly, results from the Pork CRC eating quality research showed that ageing of various pork cuts for up to 14 days post-slaughter (in vacuum bags) did not improve tenderness to enable the fail rate of pork (that is, pork rated as unsatisfactory or below average by consumers) to be reduced to the target of less than 10 percent.

In contrast, ageing is an integral part of the Meat Standards Australia eating quality system for

beef and sheepmeat.

The inability of Australian pork to age is not yet explainable, but is being addressed in several currently funded Pork CRC projects.

Dr Cameron Jose from Murdoch University (3A-113) is looking to understand the influence of the enzymatic oxidative/glycolytic potential of muscle on the rates of post-mortem metabolism and overall eating quality, as well as whether this may explain the observed lower ultimate pH of pork.

Pork packaging

To add to this, Pork CRC research has also identified that loin steaks packaged in high-oxygen modified atmosphere packaging had inferior consumer acceptability for tenderness and overall liking compared to those vacuum packed for seven days.

This suggests that packaging pork into modified atmosphere retail-ready packs may be inhibiting tenderisation and juiciness improvement in pork.

Further work to identify if pork aged for a period in vacuum packaging toughens when subsequently packaged in high-oxygen MAP and to understand the mechanism, is now being conducted by Dr Minh Ha and Prof Robyn Warner from the University of Melbourne (Pork CRC Project 3A-118).

It is anticipated that this study will provide optimal eating quality strategies for industry for ageing and packaging of pork cuts.

These outcomes will be communicated to industry as soon as they are available.

Eating quality studies supported in Subprogram 3A are providing new data on pork eating quality variability, how it varies between different cut types and cooking methods used and improved our understanding of the interactions between different pathway variables on pork eating quality.

Statistical analyses of datasets generated from Subprogram 3A to enable the development of cuts-based eating quality pathway models is being led by Jessica Tan from the South Australian Research and Development Institute (Pork CRC Project 3A-116).

Lean meat

Pork CRC support has also enabled development of a lean meat yield system for pork carcasses and primals, known as PorkScan Plus, in conjunction with PorkScan Pty Ltd (Pork CRC Projects 3A-104 and 3A-119), that will now be commercially evaluated

by several Australian pork processors.

Software algorithms to automate the interpretation and analysis of trace elemental data for PhysioTrace (thereby reducing the involvement for expert chemists) have been completed and are in the process of being integrated into APL's systems (Pork CRC Projects 3A-102 and 3A-108).

Healthy pork

Subprogram 3B has generated substantiated evidence that regular consumption of fresh lean pork does not adversely affect health.

Health outcomes, particularly cardio-metabolic benefits, in overweight, type 2 diabetic adults were investigated in a randomised controlled study led by Dr Karen Murphy from the University of South Australia (Pork CRC Project 3B-102) conducted over a six-month period.

Interestingly, similar weight loss and reductions in cardio-metabolic risk factors, including improvements in glycaemic control, blood pressure and body composition, were observed between the high pork and low pork protein energy-restricted diet treatments.

It also demonstrated that positive health outcomes can be achieved in overweight, type 2 diabetic adults using diets with a lower pork protein content.

As the National Health and Medical Research Council is yet to adopt the use of high-protein diets as a treatment strategy for type 2 diabetics, level II evidence that, according to the NHMRC, is likely to be considered for dietary guideline revision and clinical practice has been provided from studies conducted in this sub-program.

Higher levels

A pilot study to determine if the nutritional

composition of three commonly consumed Australian pork cuts (loin steaks, fillets and scotch fillet) has changed since 2004 when the last survey was conducted, has now been completed (Pork CRC Project 3B-112 – led by Dr Ken Ng from the University of Melbourne).

Iron and thiamine levels, in particular, were higher than the previous study, however, as cuts were analysed untrimmed in this study, overall fat levels were higher than the 2004 survey.

Further opportunities to undertake a larger study are now being explored.

Communication of all research outcomes from Subprogram 3B to end users, namely health professionals and the general public, is needed to ensure the health benefits of pork, compared with other meat sources, are recognised.

This work, being led by Dr Deborah Nolan-Clark (Pork CRC Project 3A-111) involves summarising all key outcomes into two targeted documents for each of these target audiences and will be a very welcome resource to assist with getting our messages out.

Consumer perceptions

Projects supported in Subprogram 3C include development and evaluation of simple consumer messaging for cooking of pork loin steaks (recognisable to many as the 6-2-2 cooking instructions), which was rolled out by APL in April 2016, with support from major retailers.

Online market research conducted with high-income consumers in four cities in China, Hong Kong, Japan and South Korea (Pork CRC Project 3C-105) provided a basis for ongoing industry efforts in terms of market access and market development.

Australian pork was favourably viewed by Chinese and Hong Kong consumers in terms of its quality, safety, welfare and environment compared with pork from Canada, Denmark and the US.

Exciting outcomes

Overall, Program 3 has delivered some very exciting outcomes.

One area yet to be delivered, however, is the tying together of all the deliverables from CRC for High Integrity Australian Pork, including sow housing during gestation and lactation, novel disease diagnostics, reduced antimicrobial use, improved disease resilience and robustness of Australian pigs and reduced effluent emissions, in addition to those from Program 3 – to underpin Australian pork's differentiation platform in new and existing export and domestic markets.

This will be addressed during 2017/18.

www.porkcrc.com.au



Pork CRC Program 3 leader Heather Channon of APL.

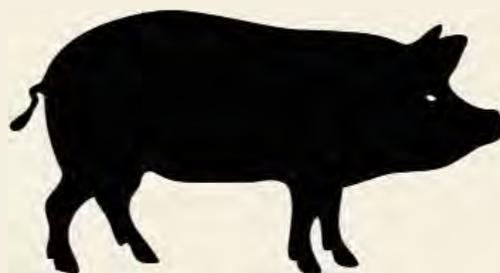


Nerylee Watson is doing a Pork CRC supported PhD on long-term pork consumption benefits, supervised by Dr Karen Murphy of the University of South Australia. Nerylee and Karen were pictured at last year's Pork CRC Stakeholders' Meeting in Melbourne with Pork CRC CEO Dr Roger Campbell.

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Optimising consumer eating experiences with pork is critical.

Biogas plant maintenance strategy selection

WITH so much work happening around the country in the biogas industry, and so many new biogas plants coming on-line throughout the pork industry, it's important

for plant operators to be across some of the maintenance and operation considerations that should be front of mind when owning and operating such an asset.

The benefits of having a dedicated maintenance strategy in place are readily evident.

Pick up any article describing the impact that maintenance has on com-

pany profitability and you will easily find data to show that having the correct strategy in place can increase a company's profitability by 2-5 percent, as well as provide additional benefits to output quality, safety and stress levels.

Too often though we are seeing biogas plants that have no maintenance strategy in place whatsoever, and it's a great shame to see resources and capital going to waste or sitting idle.

Now I'm not one for prescribing huge amounts of paperwork or creating more of a burden than is necessary, but unfortunately in this day and age, with a rising cost of business, pressures to meet ever-increasing production targets and the threat of cheap imports, you just can't afford to be complacent about the way you run your business.

With all that being said, in this article, I'll try to briefly answer the important questions of:

1. Which maintenance strategies exist for biogas plant and equipment?; and
2. How do we determine which is the correct strategy to use?

Let's start with the first question.

Corrective, or sometimes called reactive,

maintenance as the name implies, is maintenance which takes place only at the point of equipment failure.

This type of strategy is best used when the cost of preventative maintenance or conditional monitoring is far outweighed by the returns on actually performing the work.

A good example of this for an on-farm biogas plant would be replacing fuses, leaking seals or a sheared coupling.

Preventative, or scheduled, maintenance on the other hand, is work which takes place at predetermined intervals, and requires equipment to be inspected and repaired or replaced if necessary.

Preventative maintenance generally requires equipment to be taken off-line, and so can be costly if not used correctly.

It is recommended to use this strategy with equipment that could cause moderate to high losses or disruptions to production, such as gearboxes or submersible agitators.

Predictive, or conditional-based, maintenance is undertaken by continual monitoring of equipment health.

In this case, an array of sensors and software will monitor and record

things such as vibrations, temperature, number of cycles and pressure, and real-time equipment condition will be analysed with statistical data to determine if the equipment is deteriorating and the probability of failure.

Predictive maintenance has a very high up-front cost by comparison, and so should only be used when failure would result in high to very high losses, such as damage to an engine or generator.

This strategy can also be used when justified by long-term returns on investment.

When it comes to the second question of determining how to use each of the individual strategies, it is recommended to first start by breaking down the sections of your plant into specific groups.

In the case of an on-farm biogas plant, it is recommended you look at the three main areas of:

- Mechanical, which covers all mechanical equipment such as pumps, generators, pipework, gas storage and so on;
- Electrical and control, covering items such as transformers, switchboards, and control software; and
- Biological, which covers the actual biological

side of converting the substrates into biogas.

For each group, list the individual equipment within that group, and then using manufacturers' data, personal experience and an understanding of the plant process, determine the most economically feasible strategy to employ for that piece of equipment; given the likely frequency and consequence of failure caused by not performing the maintenance.

For example, in the case that you have two slurry pumps on your plant with one running as a standby, the cost of performing preventative maintenance by removing and inspecting rotors every month will likely be outweighed by the cost of keeping a spare set of rotors on hand to replace on failure, given that the consequences and frequency of rotor failure are fairly low in most cases.

The cost of checking a pump's oil reservoir level on a daily basis will be negligible, while the financial consequences could be moderate.

In this case, replacement of the lobes should occur at failure (corrective strategy), while topping up gearbox oil should occur at intervals (preventative strategy).

It will pay to be mindful when completing this exercise that the biological group in particular will likely need to list the processes, not just the equipment that requires attention.

As way of a second example, monitoring the biological health (TS, VS, PH, NH₄, VFA:buffer ratios and so on) in combination with the gas output and quality of your plant can be considered a preventative and predictive maintenance operation.

If you're not routinely monitoring the biological health of your plant, then knowing what immediate corrective action to take when a problem arises can be very tricky.

This could lead to reduced digester effectiveness, efficiency, gas production and ultimately process upset and collapse, all of which can have a very high consequence.

After familiarising yourself about the basic maintenance strategies mentioned and determining which to use, the final step in the process is to use this data to generate check-sheets and a timetable correlating to your strategy.

As with all strategies, it's best to review and adjust as time passes and you collect more data on your individual plant's operation.

Like all new equipment you buy, a biogas plant will take some time to get used to and understand.

Each plant has its own subtle nuances, so you will have to experiment to figure out what works well for yours.

To learn more about maintenance strategies or how you can use this to help optimise your plant's performance, get in touch with Finn Biogas on 0407 823 161 or drop by and see our presentation at the Bioenergy Australia Conference in Brisbane from November 14-16.

Jason Hawley
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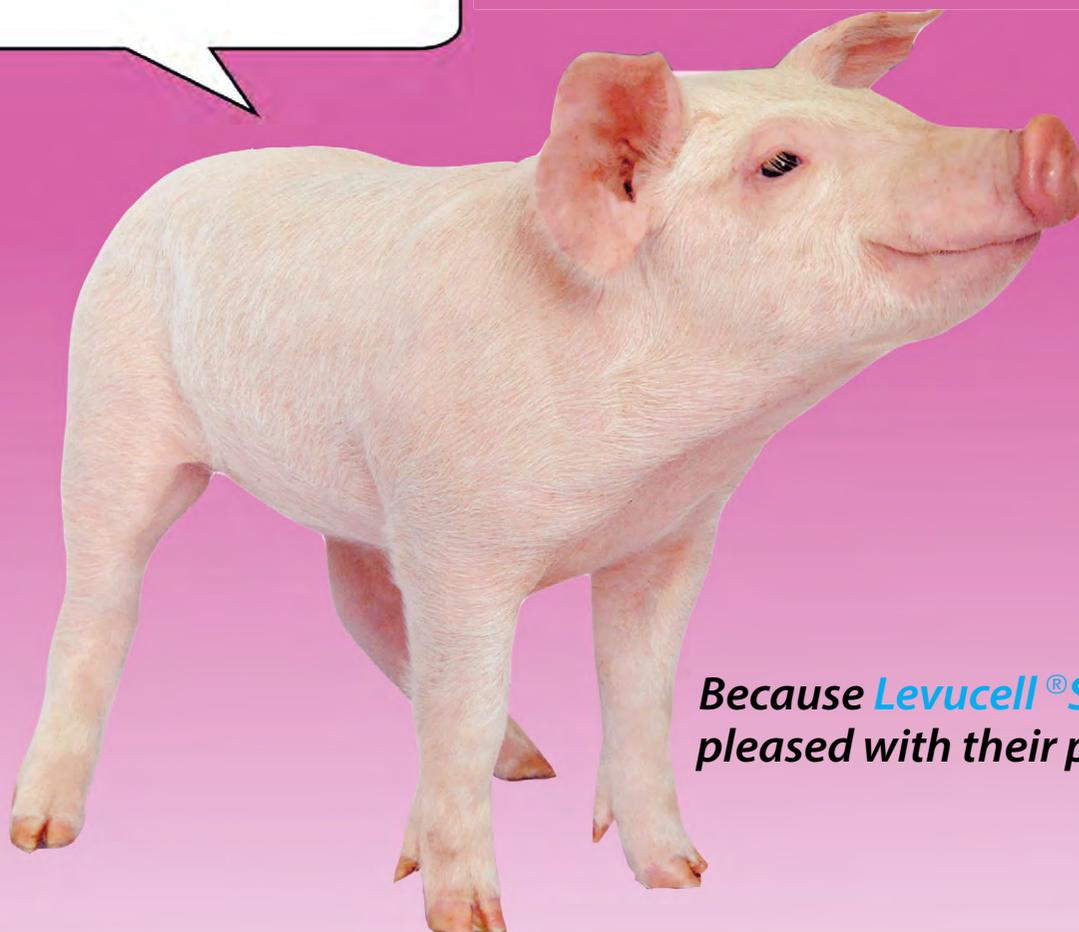
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GrowAg Summit well attended by Australian pork industry

I RECENTLY had the pleasure of participating in the GrowAg Summit on behalf of Australian Pork Limited.

Presented by the Rural Industries Research and Development Corporation and the Australian Department of Agriculture and Water Resources, the three-day forum aimed to bring together emerging rural leaders across all sectors of agriculture in Australia to share ideas, discuss opportunities, innovations and challenges facing the sector and identify how tomorrow's leaders can capitalise on these opportunities.

Held in Albury, NSW, the summit focused on three key themes of entrepreneurship and global agricultural opportunities: innovation and education, technology, and leadership.

Over 100 identified future leaders in agriculture attended the summit from a range of sectors and regions of Australia.

The Australian pork industry was well represented, with five members of industry and an APL colleague joining me at the GrowAg Summit.

The attendees were Jessica Edington (APL), Hugh Buckley (Blantyre Farms), Anatolii Vodka and Stephen Waples (Windridge Farms) and Corey Young and Ryan Hargreaves (Rivalea Australia).



I was given the opportunity to speak on innovation in the Australian pork industry and presented on our traceability system and the 'Pigs in Schools' program.

I predominantly focused on Physi-Trace and how APIQ, PigPass and Physi-Trace are integrated together to form an extremely robust and reliable traceability system.

The audience was very interested and impressed with this system, with many questions arising from other animal industries on how it could be adapted.

Consumer education was a recurring theme throughout the summit and as such the 'Pigs in Schools' program was recognised as an industry-leading initiative and a valuable investment for producers.

The Australian pork industry was generally applauded for being an industry that is constantly on the front foot and taking the initiative in both innovation and integrity.

APL was one of sev-

eral Research and Development Corporations involved in the conference.

Other RDC presenters included Australian Wool Innovation, RIRDC, Wine Australia and the Cotton Research and Development Corporation.

Notable speakers at the summit included Dr Daniel Terrill of Deloitte Access Economics speaking on game changers in other industries that agriculture can use as case studies, Xavier Rizos of Westpac Innovation Garage presenting 'The next Steve Jobs will be a farmer' and Dr Tim Soutphommasane, Australia's Human Rights Commissioner, discussing the advantages of cultural diversity and inclusive leadership in businesses.

The key message that came out of all presentations and discussion sessions was consistent, and identified collaboration in agriculture as a key to future success and sustainability.

Despite the jam-packed three days, attendees left feeling invigorated and ready to take on innovation in agriculture with the message: 'The difference between dreams and reality is action – what are you going to do on Monday for Australian agriculture?'

**Ashley Norval
APL Manager, Technology Adoption & Industry Capability**



Hugh Buckley, Jess Edington, Anatolii Vodka, Corey Young, Ashley Norval and Stephen Waples. Photo: Ron Croft, Able Media Productions

Pressure cleaner maintenance – it's simple

HIGH-pressure cleaners are widely used throughout the livestock industry to maintain animal health and hygiene.

Aussie Pumps offers operators free service documentation that clearly shows the principles of operation of triplex pumps, their maintenance and in-depth troubleshooting.

Four simple rules for trouble-free operation

1. Make sure the pump is always getting adequate water supply. Never run the pump dry! Check filters on a regular basis to make sure they are clean.

2. The inlet filter should always be sized to the rated capacity of the pump, or preferably greater.

3. Lubrication. Check oil on a regular basis. Ensure oil is clean and not 'milky'. Milky oil will indicate that water

is coming back through the seals from the wet end of the pump and into the crankcase. Use only recommended oils from the manufacturer, preferably non-detergent, premium-grade crankcase oil with anti-wear oxidisers and rust-inhibitor additive.

4. Check daily for leaking hoses or fittings on the high-pressure side. These can result in the unloader believing the gun is being opened on a repeated basis and this can cause 'unloader chatter'.

Servicing your system

Regular maintenance is vital for optimum pump pressure-cleaner performance.

If the maintenance issues are not simple items as outlined above, contact a reputable pressure cleaner repair station for expert advice.

Aussie Pumps' Ham-

ish Lorenz said it's not rocket science.

Once the principles of positive displacement are understood by the operator, the rest is rela-

tively simple.

Further information is available from Aussie Pumps on 02 8865 3500 or at www.aussiepumps.com.au



Aussie Pumps fits Bertolini Pumps with safety kits to prevent pump damage in the event of extended bypass running and pressure spikes.

Nu-Tek panels fight increasing energy costs

DURING a recent trip through regional South Australia and Victoria visiting a variety of pork farms, Nu-Tek national sales manager Warwick Prestwood was amazed at the costs of heating and cooling farrowing sheds.

Ever-increasing costs are a major impediment in sheltered animal husbandry production, particularly during the recent arctic weather hitting much of southern Australia.

Now with predictions that we are all in for a very hot summer, there appears to be no respite from soaring energy costs.

Nu-Tek PIR panels in 50mm, 75mm and 100mm are ideal for combatting these rising costs.

With a 2.4 R value, .6 Colorbond steel and fire rating, Nu-Tek's 50mm panel has been the most popular with pork farmers Australia wide and is now a much-deserved preferred option over polystyrene.

Nu-Tek's slip joints have also been referred to as 'the best in the panel industry', which is crucial during the build process and guarantees a sealed shed.

Coupled with Nu-Tek's injection moulding to ensure complete adhesion between the steel and PIR, it's no wonder Nu-Tek panels are becoming the preferred option of both individual farmers and builders throughout Australia.

Nu-Tek is proudly Australian owned and operated, with all products

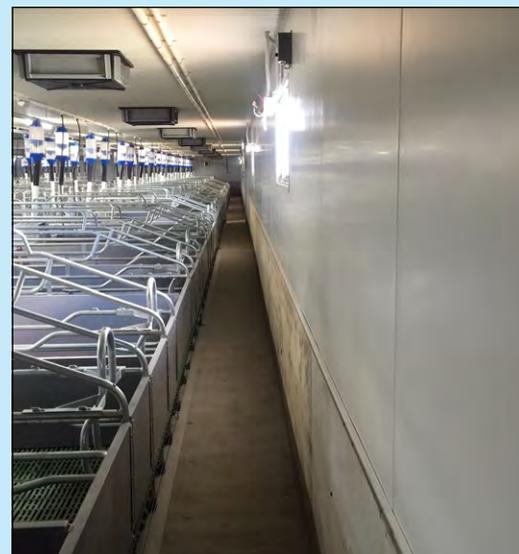
sourced locally.

Nu-Tek has a quick turnaround of two weeks for orders, and deliveries are available Australia wide.

Whether expanding or building new, Nu-

Tek PIR panels are the ideal choice for growers wishing to save money through reduced energy costs and build times.

For more information, visit nutekbuildingsystems.com.au



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Doing it outdoors – sustainable outdoor pig production workshops

AUSTRALIAN Pork Limited, Livestock Environmental and Planning and Integrity Ag Services have developed a free half-day workshop aimed at helping farmers plan and manage outdoor pig farms in a way that benefits the environment and their practice.

This is a great opportunity for those interested in outdoor pig farms, current producers and small holders to engage with experts to get started or improve their current farm management.

For new farmers, this means increasing awareness and understanding of the regula-

tory requirements for getting a farm up and running.

It will also assist established farms to meet regulatory requirements and farm pigs in a sustainable way.

Workshop participants will learn:

- Information about how to manage nutrients including help to understand where these nutrients come from and how to sustainably utilise them;

- How to develop a nutrient management plan, what this includes, the steps needed to get one going and how to develop an action plan following its development;

- Land and water protection measures including how to mini-

mise erosion, how to maximise ground cover and how to successfully manage wallows; and

- How to conduct soil monitoring, with pointers about how and when to sample, and how to get the most out of the analysis and interpretation.

These workshops are being delivered in Victoria (October 11), NSW (October 14 and 26) and Western Australia (October 19) by LEAP and Integrity Ag.

To register or for further information, please call: Robyn Tucker (Bendigo and Temora workshops) on 0419 787 137 or Steve Wiedemann (Lismore and Albany workshops) on 07 4615 4690.

Workshop details

October 11	10-3pm	The Loaded Plate	521 Napier St, Bendigo, Victoria
October 14	10-3pm	Workers Club	23 Keen St, Lismore, NSW
October 19	10-3pm	Quality Suites	212 Albany Hwy, Albany, WA
October 26	10-3pm	Ex Services Club	130 Baker St, Temora, NSW

*Morning tea and lunch included

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- Arranging maintenance programs as required
- Maintaining records and reports

Remuneration will be discussed during the interview process and is dependent on skills and experience.

Email applications to bill@pendleham.com.au or call Charlie on 0411 427 442.

Mundigo welcomes new employees

MUNDIGO welcomes Gordon, Daryl and Colin to the expanding team servicing the increasing needs of the Australian pig industry building and construction sector.

Gordon Hensley has been with Mundigo for the past five months as a design and drafting engineer.

On completion of his engineering degree at Flinders University in Adelaide, Gordon was fortunate with his timing coinciding with a vacancy at Mundigo, enabling him to return to his home territory and put his newfound skills into action.

He has been busy with design work for new shed constructions and learning about intensive agriculture buildings.

Daryl Emmins has joined the team as a projects manager.

He has experience in intensive shed construction and will be on site overseeing various projects as well as working with Mundigo's construction crews in Victoria and South Australia.

In previous years, Daryl was a construction manager involved with developing new styles of intensive shedding, costing

new projects, project time management and supervision of contractors.

Daryl has a trade background in metal fabrication, general engineering and management of intensive livestock.

He has valuable experience in supervision and management within these fields.

He will bring to Mundigo enthusiasm and skill in planning and construction of intensive shedding, a broad knowledge in WHS for site projects and an understanding of quarantine within the intensive livestock field.

Colin Wooldrige brings a wealth of business management knowledge to Mundigo.

His background includes expertise in project management, business development, engineering, manufacturing and construction.

Colin started his career in metal machining and worked his way up through mainly construction supply industries, working in design, quality, site management and general management.

He has previously led large projects in agricultural, commercial and industrial supply chain fields.

Colin will be leading the project management effort for Mundigo.

He is looking forward to meeting Mundigo's valued clients and working in the pig industry.

Mundigo continues to provide innovative and professional building and equipment solutions for piggeries and other intensive agriculture operations.

The expanding team at Mundigo and that of the company's subcontractors is indicative of Mundigo's capability as a solutions provider in the industry.

www.mundigo.com.au



Gordon Hensley, Daryl Emmins and Colin Wooldrige.

Top quality shown at this year's Royal Adelaide Show

THIS year's Royal Adelaide Show was held over the first week in September, with eight studs represented from South Australia and NSW.

Berkshire, Duroc, Landrace and Large White studs were on show for the judges, with Landrace the feature breed.

Rob Bradley from Western Australia judged the Berkshire and Duroc breeds while Wilson Neundorf from Queensland judged the white breeds.

Joyce Wilkie, Allsun stud took out best of breed Berkshire with a nine-month-old boar.

The Davis family from

Aroora Enterprises won best of breed Duroc with a boar in the five to seven-month-old class and also the best of breed Large White with a young five-month-old boar.

In the feature breed, the Blenkiron family, Gumshire stud won best of breed Landrace with a seven-month-old boar.

In the All Breeds classes, Aroora Enterprises won the Junior Champion Sow with a Duroc gilt while the Blenkiron family won Best Sow Under 12 Months with a pregnant Large White gilt and also Junior Champion Boar with their Landrace boar.

Supreme Champion Pig in Show was awarded to Joyce Wilkie with her Berkshire boar, Allsun Crackerjack C17.

At the Royal Adelaide Show there was a Commercial section where you could enter a pair of bacon and a pair of pork.

These pigs are judged on their live appearance for commercial marketing.

More than 20 farms entered in this class, with the place getters earning a top price for their pigs.

R & CS Rudiger, Yarc took out first place in the bacon section with MC & ML Blenkiron second and N & E & R Loffler third.

First in the pork section was MR & LJ Lewis, second MC & ML Blenkiron and third R & CS Rudiger. The stud pig sale was held on the Wednesday of the show.

With more interest than previous years, the sale was red hot from the start.

Five states registered for

bidding and all were represented at the auction.

The sale saw Berkshire, Duroc, Landrace and Large White available.

A total of 68 pigs between seven studs were available at the auction, with 67 selling at an average of \$1143.28.

This was well up from last year's average, which saw 55 pigs sold, nine passed in and an average of only \$582.63.

The top price of \$3100 went to the Blenkiron family for their Junior Champion Boar that was bought by the Naylor family from Bathurst, NSW.

The Naylor family was a volume buyer, purchasing 10 pigs in total.

Also a volume buyer was the McMahon family from NSW, taking home 20 pigs.

Next year's sale will once again be held during the Royal Adelaide Show on Wednesday, September 6.

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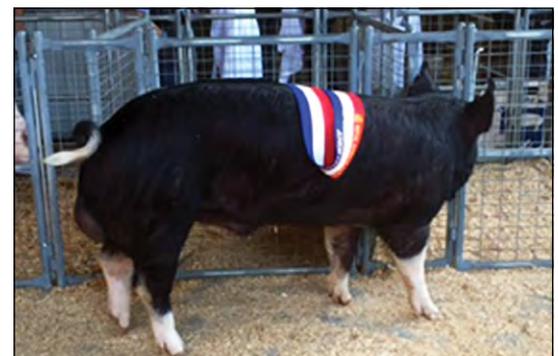


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A focus on genetics



ALWAYS at the forefront of improving welfare, representatives of the Australian pork industry were involved in the recent Breeding Focus workshop on improving welfare.

Breeding Focus is a bi-annual event held in Armidale, NSW and hosted by the Animal Genetics and Breeding Unit and CSIRO Agriculture and Food.

It was developed to provide a forum for researchers and livestock industries to exchange ideas about genetic improvement.

Setting the scene for the workshop, Andrew Fisher (University of Melbourne) began the discussion by outlining the existing frameworks used to define animal welfare and the challenges of measuring welfare on farms.

The complexity of the ethical issues of livestock breeding and the frameworks available to encourage structured discussions about these issues were presented by Imke Tammen (University of Sydney).

Selection for improved welfare endeavours to have animals that are more suited to the environments they are produced in.

Several welfare measures are genetically independent of productivity traits, so welfare can be improved while maintaining productivity.

Welfare measures can be based on health traits, where animals are selected on their ability to deal with diseases and health conditions that may create welfare issues, such as footrot and mastitis.

Welfare measures can also be based on behavioural traits.

Examples of genetic improvement of welfare of farm animals were illustrated in various livestock industries including dairy, beef cattle, sheep and crocodiles.

From the pork industry, Kim Bunter (AGBU) presented results of her research to identify selection criteria that may facilitate selection of sows better suited to group housing.

Practical criteria that can be implemented in commercial breeding programs include social genetic effects and fight lesion scores.

Susanne Hermes (AGBU) outlined the welfare traits included in pig breeding programs that are related to pork quality, health and piglet survival.

Potential selection traits that may be used to fur-

ther extend welfare traits include lameness, skin ulcers and incidence of tail biting.

Interactive presentations encouraged much discussion during the event, which was attended by more than 40 people.

Discussions highlighted that true measures of welfare are animal based, rather than system based.

Sufficient data is also needed in order to incorporate improved welfare in breeding strategies.

It was also agreed that there may be an optimal range of welfare and behavioural traits.

What became clear was that while genetic improvement is no replacement for good management practices and stockmanship, genetics have an essential role in any industry.

Following on from this two-day event was the AGBU Pig Genetics Workshop, where talks were delivered by students in the pig industry.

Jo-Anne Harper, an Australian Pork Limited supported Masters student (University of New England) and genetics co-ordinator at Rivalea, overviewed her work on selecting for immune competence.

Although there were practical challenges with assessment of immune response, variability between boars for adaptive immune responses indicates some promising results.

I discussed my Pork CRC supported PhD project on developing genetic models to describe disease resilience in pigs.

The aim is to identify pigs that can maintain health in the face of pathogenic challenges without a significant decline in productivity.

My research has been looking at contemporary group estimates from routinely collected farm data, which is useful in quantifying the known and unknown environmental challenges pigs experience.

I've developed statistical models to attempt to partition the environmental from pathogenic challenges that are captured in these estimates of contemporary group effects.

Adjusting for climatic effects, especially monthly averages of minimum air temperatures, may provide a finer definition of the unknown environmental challenges.

While verification that these unknown challenges include infection challenge is still needed,

this methodology may aid breeders to breed for productive and healthier animals.

The Breeding Focus and Pig Genetics workshops are essential forums for discussion of important issues and the new genetic methodologies and technologies that are available to address these challenges.

Susanne Hermes, organiser of both events, said livestock industries had recognised the importance of welfare and how genetics continued to play a role in improving welfare of animals on farm.

She added that continued active discussions between researchers, industry and society were essential for further improvements in animal welfare.

Breeding Focus books and AGBU Pig Genetics Workshop notes presented in previous years are available now from

www.agbu.une.edu.au Supported in part by Pork CRC. Sarita Guy Pork CRC PhD candidate



Participants at the AGBU Pig Genetics Workshop.



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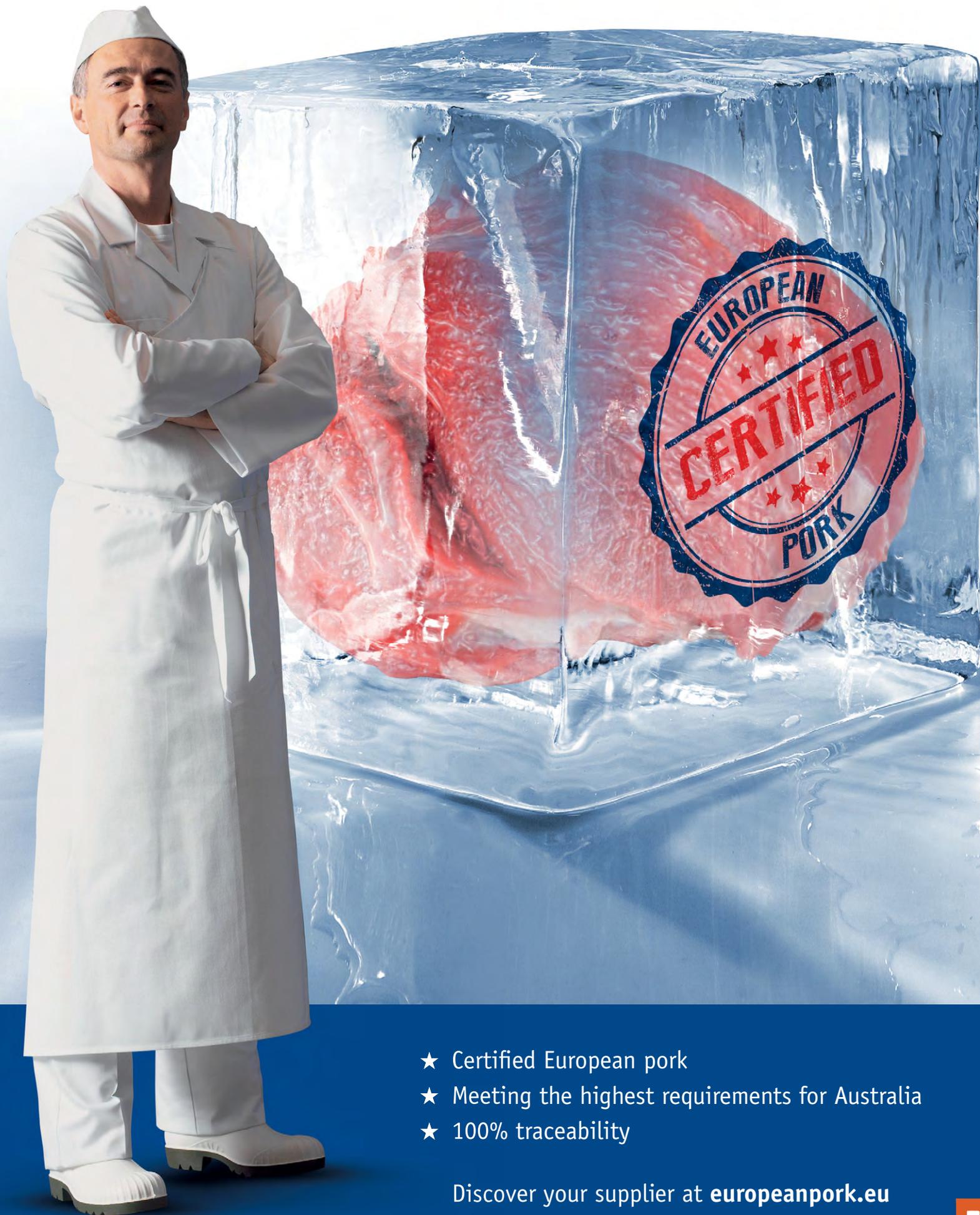
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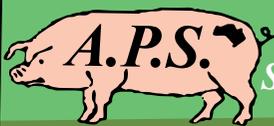
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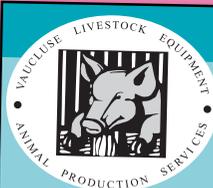


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New regional director for Alltech Thailand, Vietnam and the Philippines

ALLTECH, a global leader in animal health and nutrition, is pleased to announce that Matt Einarson has assumed the title of regional director for Thailand, Vietnam and the Philippines, effective September 1, 2016.

He will be based at the company's Bangkok offices.

In addition to many years with Alltech, which he initially joined in 2003, Einarson was previously the managing director of EMF Nutrition, for which he had also served as director of monogastric nutrition and business development.

Most recently, he was the director of innovation and business development at Masterfeeds, Canada's leading animal nutrition company, which was acquired by Alltech earlier this year.

Matt's extensive knowledge of business development in the animal feed industry will be invaluable to Alltech in South-East Asia, as the company grows there as a developer

and manufacturer of its proprietary premixes and looks to acquire new subsidiaries.

He also brings great value to Alltech as an out-

standing builder of customer relationships, since these relationships are the foundation of the company's recent strong growth in the region.



Matt Einarson has assumed the title of Alltech regional director for Thailand, Vietnam and the Philippines.

Farm sector hopes key reviews will improve inadequate telecommunications services

ACTIONS by the Australian Competition and Consumer Commission to investigate the telecommunications sector have been welcomed by the National Farmers' Federation as it continues to advocate for adequate and fair coverage and connectivity in the bush.

The measures include:

- An issues paper to gather feedback from industry and consumers as part of its market study into the communications sector; and
- A new ACCC inquiry to consider declaration of a wholesale domestic roaming service.

NFF president Brent Finlay said it was no secret many rural and regional Australians endured sub-standard connectivity and hoped these measures would help remedy this imbalance.

"We know that people, families and businesses



in rural and regional areas do not enjoy the same level of service of competition in the telecommunications markets that metropolitan customers do and that this is for a range of reasons including access to networks and infrastructure," he said.

"This is increasingly unacceptable given the bearing it has on productivity, community prosperity and personal safety, particularly given the growing reliance on technology in commerce, agricultural innovation and healthcare."

Mr Finlay said the in-

quiry into wholesale domestic roaming would be helpful to rural customers given it would investigate if access to roaming across carriers would enable greater competition for mobile services in areas where providers do not have their own network.

"This has long been a point of discussion because it is unclear if roaming would be of real assistance or would discourage new investment in telecommunications infrastructure, and we welcome this option being further assessed," he said.

"Additionally, the market study into the telecommunications sector will be an important process for rural and regional telecommunications users given it will help identify current and emerging competition issues in the sector.

"This is particularly timely in light of the NBN rollout, and recent findings about performance of the Mobile Blackspot Program.

"We know that regional customers are being stuck with higher phone and internet bills than those in metropolitan areas, and competition is part of the remedy."

Mr Finlay said better mobile coverage, greater competition and fair pricing were the greatest issues faced by regional telecommunications customers.

"These issues need to be addressed long-term to close the digital divide between rural and urban Australia."

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G20 challenged to fight antibiotic resistance

A PAPER challenging global business leaders to recognise the complexity of the antimicrobial resistance challenge in humans and animals and the role of agriculture, was circulated at the G20 Summit, which took place in Hangzhou, China in September.

The paper, submitted by the Responsible Use of Medicines in Agriculture Alliance and published in the International Chamber of Commerce G20 CEO Advisory Group's 'Business and Leaders' magazine, also asks the G20 to work with regulators and

vets to develop bespoke solutions for farmers in each country so they can reduce, refine and replace use of antibiotics.

RUMA chair Gwyn Jones said he hopes the article will place some much-needed context around the role of medicines in livestock farming.

"They remain a vital veterinary tool to protect animal health and animal welfare and help us to continue to produce safe, quality food," he said.

Mr Jones said the challenges to improving the responsibility with

which antibiotics are used varies from country to country.

"In developed countries the barriers can revolve around supply chains, market pressure and communication," he said.

"In developing countries, the focus is more on extended veterinary services to help farmers get the right medicine for treating their animals and to use those medicines at the right time and in the right way."

Mr Jones said responsible use also means using antibiotics 'as little as possible and as much as

necessary' by managing farms appropriately.

In its concluding communiqué, the G20 stated: "We affirm the need to explore in an inclusive manner to fight antimicrobial resistance by developing evidence-based ways to prevent and mitigate resistance, and unlock research and development into new and existing antimicrobials from a G20 value-added perspective, and call on the WHO, FAO, OIE and OECD to collectively report back in 2017 on options to address this including the economic aspects."

Gross value of Australian farm production to reach \$58.4 billion

THE gross value of Australian farm production is forecast to increase to \$58.4 billion in 2016-17 – due in part to a forecast rise in the gross value of crop production – according to the latest analysis released in the ABARES Agricultural Commodities report.

Acting ABARES executive director Peter Gooday said if realised, the gross value of farm production would be about 13 percent higher than the average value for the past five years.

"In 2016-17, the gross value of crop production is set to increase by 6.6 percent to \$29.2 billion, which is largely due to a rise in the gross values of horticulture, cotton and oilseed production," Mr Gooday said.

"The gross value of livestock production is also forecast at \$29.2 billion, which remains largely unchanged after an estimated 7.7 percent increase in 2015-16.

"Following a modest increase of 1.3 percent in 2015-16, export earn-

ings from farm commodities are forecast to fall slightly to \$44 billion in 2016-17.

"While cattle prices are expected to remain strong, beef exports are forecast to fall by 12 percent as herd rebuilding limits supplies for export."

Other commodities for which export earnings are forecast to fall in 2016-17 are beef and veal (down 12 percent), dairy products (down 1 percent), live feeder/slaughter cattle (down 4 percent) and mutton (down 17 percent).

While export earnings for wheat are expected to remain largely unchanged, rises in export earnings are forecast for

wool (6 percent), sugar (21 percent), wine (1 percent), cotton (40 percent), lamb (3 percent) and canola (43 percent).

"Export earnings for fisheries products are also forecast to rise by 8 percent to \$1.7 billion in 2016-17, following an increase of 7 percent in 2015-16," Mr Gooday said.

The September edition of the ABARES Agricultural Commodities report also features articles on current agricultural issues, including Australian farm investment.

Full details are available on the ABARES website at agriculture.gov.au/abares/publications



Pig Farm Perspective by Bruce the brainy pig



RECENTLY, many producers have been inquiring about the cause, effects and treatment of ileitis.

Ileitis is a term used to describe inflammation of the lowest region of the small intestine, known as the ileum.

In the pig industry, ileitis is most often used as a general term when discussing the proliferative inflammation of the ileum caused by lawsonia intracellularis bacteria.

Other terms used to describe this infection are proliferative enteropathy, porcine intestinal adenomatosis and proliferative haemorrhagic enteropathy.

For the purposes of this article I'll continue to refer to the disease as 'PE'.

With increasing information available on the economic cost of both clinical (symptoms of PE observed) and sub-clinical PE (no symptoms observed), many producers are looking for ways in which we can diagnose, measure and monitor the impact of PE on our farms.

It is fair to assume that PE is present on all farms in Australia.

All 180 Australian herds tested in a 2010 survey were positive for lawsonia intracellularis antibodies.

PE can manifest as a chronic form, where initial infection occurs at six to 20 weeks of age, or as an acute form, from three to 12 months of age.

The acute form presents as sudden death with a bloody scour and it is most commonly seen in select gilts that have not previously been exposed to the bacteria.

Chronic ileitis is the most common form of the disease, mostly affecting pigs post-weaning.

It has a significant economic impact.

This occurs when the lawsonia bacteria causes thickening of the ileum, reducing the capacity of the ileum to absorb nutrients from feed, thus decreasing the growth rates and feed conversion efficiency.

Severely affected pigs often have a brown scour, while mildly affected pigs may show no signs at all except for reduced performance (such as slower growth rates resulting in greater time to market and reduced feed conversion).

A 1991 Australian field trial found that daily weight gain was on average reduced by 24 percent over the life of ileitis-affected pigs.

Also, because pigs within a batch are not affected similarly by lawsonia, there is increased body weight variability of pigs within the group.

This increased weight variation has economic importance, with European studies showing a 10 percent discount in price per kilogram for

groups of pigs with high weight variation compared to those of low body weight variation.

It is at this point of the discussion with producers where I am often asked about treatment of ileitis in grower pigs.

Antibiotic treatments can be effective at controlling ileitis, including the use of targeted in-feed or water medication, however with the increased move towards minimal use of antibiotics in the Australian pig industry this is fast becoming an outdated option.

If antibiotics are to be used, they should be given using a targeted approach, depending on the profile of infection on each individual farm and when the infection and disease is occurring.

This can be established through the use of blood serological profiles and faecal testing.

The currently available vaccine is an oral vaccine that can be given through the water lines, as a drench or in drinker bowls.

Multiple studies have shown that vaccination can be an effective measure for control of PE.

These trials, undertaken on farms with both clinical and sub-clinical ileitis, found that pigs treated with the oral vaccine grew faster, achieved higher end weights and had higher feed intakes than unvaccinated pigs.

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Chinese research institutions convene for Alltech's annual alliance meeting

IN early September, professors and experts from the Alltech China Research Alliance gathered to share their research progress and discuss the most pressing issues in the animal feed and nutrition industry.

Alltech, a well-known animal health and nutrition company, launched the Chinese Research Alliance project in October 2012, representing a significant investment for the company in the Chinese markets for research and education.

Prof Li Defa, academician at the Chinese Academy of Engineering, believes the Alltech China Research Alliance has played a leading and inspiring role in the industry.

Global vice president and head of Greater China for Alltech Dr Mark Lyons said food safety and the environment are getting more and more attention in China's agricultural sector.

"Alltech wants to provide agricultural solutions for China's future, which will have an impact on the food and feed industry around the world," he said.

"To identify these solutions, we formed the Alltech China Research Alliance.

"By partnering with leading universities and research institutions in the country, we can work together to deliver stronger solutions faster."

Through the research alliance project, Alltech has built long-term scientific research cooperation with 10 well-known universities, research institutes and leading feed and food enterprises.

The focuses of their research have included mycotoxin management and inspection technology, the assessment of new feed additives, animal nutrition control and nutrigenomics (the study of nutrition at the genetic level), the control of greenhouse gas emissions, aquaculture innovations and more.

At the meeting, professors and scholars from the research alliance project discussed the following.

Organic trace minerals

The alliance team from Zhejiang University completed trace minerals replacement research on pigs in 2015.

From tests of faecal excretion samples, they determined that 25 percent total replacement technology, which is the use of organic trace minerals, can reduce the excretion of trace minerals in faeces and decrease

environmental impacts.

Alltech will continue to promote research on the total replacement of mineral nutrition with organic minerals because of its importance to environmental protection and sustainability.

Algae

Microalgae is rich in protein and DHA omega-3, which makes it the best choice to replace fish oil or fish meal.

Alltech is a leader in microalgae technology and produces clean and consistent heterotrophically grown algae at its flagship facility in Winchester, Kentucky, US.

Through the alliance, Alltech and the Ocean University of China conducted a trial to evaluate the effects of replacing fish oil with microalgae in the diet of Pacific white shrimp and came to the conclusion that the whole cell microalgae could replace 100 percent of fish oil DHA without negatively affecting shrimp growth.

In the future, more research will be conducted on how to reduce the costs of the diets containing algae.

Meanwhile, Alltech and Zhejiang University are collaborating on producing DHA-rich eggs.

Dr Jun Luo, professor of animal science and technology at Northwest Agriculture and Forestry University, gives the Alltech China Research Alliance high praise.

He believes Chinese universities benefit from it and gain many advanced technologies.

"Support from Alltech gives us the opportunity to further research nutrition and animal science, which will promote the development of animal production and the whole food industry," he said.

Through the alliance, Alltech hopes to put more theory into practice, focusing research on the practical needs of customers.

Alltech believes in bringing customers' problems first to the laboratory to seek out proven solutions through the alliance.

By the end of 2016, Alltech will invest \$2.5 million in the Alltech China Research Alliance.

The alliance model has been proven to be successful because alliance research results have solved practical problems in the agriculture industry.

"The program provides a very good education for young scientists in agriculture," Luo said.

"The alliance can guide the undergraduate and graduate students to seek a better career path."

The alliance demonstrates Alltech's insight and foresight into the industry.

Academician at the Chinese Academy of Engineering Prof Mai Kangsen said China's traditional agriculture falls far behind the agriculture in Europe and the US.

"Alltech takes the environment and food safety into consideration and undoubtedly promotes the development of the whole industry and agriculture."

All the research alliances that are part of the Alltech China Research Alliance are managed by a management committee composed of representatives from Alltech and the universities and research institutions, with three members from each side.

The committee is responsible for the policy-making of the alliance, preparation of the program and direction of the trials.

Alltech provides operations, equipment, research funding and other funding for the alliance each year and also provides scholarships to the institutes of animal science and technology.

The first Alltech research alliance was launched with the University of Kentucky in Lexington, Kentucky, US, in 2004.

At present, Alltech has formal research alliances with nearly 30 top universities and institutes worldwide. www.alltech.com

Australian data presented for Ingelvac MycoFLEX vaccine

THE Australian Pig Veterinarians' Conference was held on September 26 and 27 at Rydges Lakeland Resort in Queenstown, New Zealand.

Boehringer Ingelheim product manager Dr Sean Daly presented the latest trial work demonstrating the efficacy of Ingelvac MycoFLEX vaccine under Australian conditions.

Ingelvac MycoFLEX vaccine was launched in Australia in August last year to protect pigs from pneumonia caused by mycoplasma hyopneumoniae.

"We have a significant amount of data from overseas trials supporting the efficacy of MycoFLEX and have sold close to one billion doses worldwide," Dr Daly said.

"However, understandably Australian veterinarians and farmers were keen to see these same results replicated on local Australian farms."

Results from local trials demonstrated statistically significant improvements in growth rates when farmers shifted to MycoFLEX.

Considerable savings in labour and vaccine usage were also demonstrated from using a true one-shot vaccine.

The trials presented included two large co-mingled on-farm studies involving more than 3000 pigs and also a real on-farm experience where

MycoFLEX replaced the farmer's previous M. hyo vaccine across the entire farm at once.

The co-mingled studies showed that MycoFLEX used as a one-shot program was just as effective as a two-shot program and that there was no advantage to boosting the MycoFLEX vaccine with another M. hyo vaccination in average daily gain or slaughter weights.

Dr Daly believes this is an important result for Australian pig farmers and veterinarians.

"There is a strong perception in the industry that a sensitiser and booster injection is required for M. hyo protection," Dr Daly said.

"This data clearly shows this is not the case."

MycoFLEX also has the added advantage of being able to be mixed with Ingelvac CircoFLEX vaccine, which can result in further labour savings from being able to combine the M. hyo vaccine to give protection against both porcine circovirus and M. hyo with just one injection.

This combination of vaccines is called FLEX-combo.

"Farmers are already convinced of the excellent efficacy and safety offered by CircoFLEX," Dr Daly said.

"FLEX-combo offers the only way for farmers to still receive the excellent

efficacy of CircoFLEX while also protecting against M. hyo in one injection.

"Farmers have seen the results of cutting corners with PCV2 control before and do not want to take risks like that again.

"Overall it has been a real pleasure working with Australian farmers, veterinarians and our own field staff in completing these trials.

"Conducting trials is an expensive and time-consuming business but

Boehringer Ingelheim is satisfied with the results.

"For me, it was exciting to be out there on real Australian farms watching MycoFLEX go through its paces."

If you would like to receive a copy of the local trial results or would like to learn more about Ingelvac MycoFLEX vaccine and FLEX-combo, contact your local Boehringer Ingelheim technical services and sales representative.

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