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Woolworths team member Len held one of the 100 percent Aussie Christmas hams.

Woolworths supports Australian pig farmers

WOOLWORTHS has shown its support for Australian pig farmers by signing up to use the pink Australian Pork logo on its Christmas hams.

Woolworths has signed up to the PorkMark program, which uses the logo to help consumers identify products made from 100 percent Australian pork.

The PorkMark logo has appeared on Woolworths' products since November 22.

Australian Pork Limited general manager of Marketing Peter Haydon said the program made country of origin clearer for consumers and congratulated Woolworths on its support for

Aussie farmers.

"People want to support Australian farmers by buying Australian ham and the PorkMark helps them do just that," Mr Haydon said.

"We have hundreds of licenses across the country, but it's great to have a major supermarket like Woolworths join them in supporting our Australian pig farmers."

Sixty-nine percent of people would prefer to buy ham made from Australian pork, but 56 percent of consumers remain unaware that ham or bacon made in Australia could be made using imported pork.

"People want to support Aus-

tralian farmers and buy home-grown products and the PorkMark helps them do that," Mr Haydon said.

"Christmas is just around the corner and to make sure it's an Australian ham at the centre of celebrations, people should look for the PorkMark logo or buy a bone-in ham."

The PorkMark will appear on a range of Woolworths' products including Ham Hickory Smoked Gourmet Half, Woolworths Half and Full Leg Hams, and the Woolworths Double Smoked Half Leg Ham Bone In, as well as the Woolworths Gold Free Range Leg Ham and Quarter Leg Ham.

Heating up towards year's end

IN a very busy November, during the season of annual general meetings, there were lots of people travelling and meeting within the Australian pork industry.

Some weeks ago, we were in Melbourne for the Australian Pork Limited meetings week, being the Board meeting, Delegates' Forum, annual conference and annual general meeting.

While always a great opportunity for exchange of information, the real advantage of the APL delegates system is the ability to hold conversations in real time in a room with more or less all the industry represented.

There was such a conversation at the Delegates' Forum around the APIQ[✓] quality assurance system and a proposal was put before delegates to change the structure of auditing.

This would involve bringing in a third-party company to manage the auditing system, and it has become necessary to look at this option due to a number of factors.

We are having trouble as an industry to retain the right number of auditors to enable audits to progress in a timely and reliable manner.

New auditors find it hard to 'break in' and get regular work and the ranks of existing auditors are slowly diminishing, with present auditors retiring or moving into other types of work.

On top of this, the integrity of the APIQ[✓] system is in a small way undermined by some auditors working for companies that are also supplying other types of services to pig producers, raising an issue of potential conflict of interest.

In summary, the sustainability of the APIQ[✓] system is at threat unless



Point of View

by ANDREW SPENCER CEO



something changes around auditing.

The APIQ[✓] system is clearly a valuable industry asset, supported by more than 90 percent of the production base of the Australian pork industry.

Delegates rightly want to make sure that if there are going to be changes to the system, these changes will not affect the quality and robustness of it.

Before making a definitive decision, it was agreed there would be information sent around to the delegates to use in raising this issue in consultation with their producer base.

There was certainly support in taking this issue forward but recognition that the transition into a new system around how auditing is conducted for APIQ[✓] in future will be extremely important to get right.

Those wanting to know more about this issue are encouraged to get in touch with Tony Abel in the APL offices on our toll-free number (1800 789 099).

The other big issue at the meetings week was the election of a new director for APL during the annual general meeting - Edwina Beveridge of Blantyre Farms.

We congratulate Edwina on her appointment and I'm sure she will bring some

great experience and passion to the boardroom as well as significant skills that we'll put to use.

We also congratulate Andrew Johnson on his re-election to the APL Board and look forward to continuing to work with him, particularly through his role as chair of the Quality Assurance and Animal Welfare Committee.

With any new director, there is a new past director, and I'd like to personally acknowledge and thank Aeger Kingma for an exemplary contribution to APL during his time as an APL director over some 12 years.

As a guest of the Board in their meetings, I am sure that if our producers were able to take a look at what Aeger contributed to sensible discussion and sound logic, they'd be very impressed and grateful for his efforts.

We are blessed as an industry to have in my opinion a very talented Board in general, but I will always remember in Aeger, his overt selflessness in working for the greater good of the industry at all times in his role as director.

APL management wishes Aeger a contented retirement from the Board and hopes we'll still see him around and continue to benefit from his wisdom.

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**Pig Industry
Calendar of Events**

2017

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

JAN 10 - 12 – Banff Pork Seminar, Banff, Canada www.banffpork.ca

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

JAN 22 - 28 – Australian Veterinary Student Conference, Townsville QLD www.ava.com.au/avsc2017

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

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

APR 4 – Livestock Forum, Barcelona, Spain www.livestockforum.com

APR 24 - 26 – Livestock Philippines 2017, Passay City, Philippines www.livestockphilippines.com

MAY 3 - 5 – ESPHM European Symposium on Porcine Health Management, Prague, Czech Republic www.esphm2017.org/

MAY 18 - 20 – China Animal Husbandry Expo (CAHE), Qingdao International Expo Centre, China www.caaa.com.cn

JUN 7 - 9 – World Pork Expo, Iowa, Des Moines, US www.worldpork.org

JUN 11 - 14 – 10th International Conference on Pig Reproduction, Columbia, Missouri US www.muconf.missouri.edu/ICPR2017/Index.html

JUL 21 - 14 – AVMA Convention, Indianapolis, Indiana US www.avma.org

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

NOV 19 - 22 – Australasian Pig Science Association (Inc) conference, Melbourne VIC www.apsa.asn.au

2018

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

Jun 20 - 22 – VIV Europe 2018, Utrecht, The Netherlands www.viveurope.nl/en/Bezoeker.aspx

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

porknews.com.au

Animal health feedback to producers – current initiatives

AT the Australian Pork Limited Delegates' Forum recently held in Melbourne, I discussed preliminary findings from current work being undertaken to quantify the value of consistent reporting by processors of the incidence and causes of carcass and offal condemnations of pigs to producers as part of APL's Food Safety program.

Routine post-mortem examinations are conducted to detect any abnormalities and pathological lesions resulting from disease or injury to ensure that carcass portions and offal produced are fit for human consumption on both public health and suitability grounds.

Diseases and/or carcass damage identified through these inspections can lead to either full condemnation of the carcass or an intervention that results in the removal of one or more components of the carcass and/or offal (partial condemnations).

As you may be aware, State and Commonwealth government regulations require processors to report carcasses that are fully condemned during inspection.

These reports detailing the cause for the full condemnation of the carcass are provided to both the producer and the regulator.

However, partial condemnation interventions may also be made on the slaughter floor during post-mortem inspection.

These can be as minor as small amounts of tissue trimming or as major as the removal of half a carcass or the complete set of offal by meat inspectors and slaughter floor personnel.

In contrast to full (or total) condemnations, there is no legal requirement to record and report reasons for partial carcass condemnations.

This means that the level of recorded detail (such as anatomical location, offal component affected and reasons for partial condemnation) concerning the partial condemnations reported to producers by processors can differ between processors.

Partial or total carcass condemnations result in significant losses to a producer.

Factors including herd disease status (acute ver-



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



sus chronic or stabilised infections), animal management practices, animal health strategies and housing design can affect individual pig performance and herd efficiency.

Consistent feedback to producers on diseases and conditions detected at the abattoir by processors can therefore be used to improve pig health and welfare as well as maximise both productivity and profitability.

Often, the presence of disease may not be accurately identified until post-mortem inspection of individual carcasses on the slaughter chain.

For that reason, routine collection of meat inspection data may be used by producers and their veterinarians to inform herd health programs, reduce disease incidence, improve growth efficiency and contribute to surveillance of animal welfare.

Such information, once ground rules have been developed and agreed by key stakeholders, may also be used at an industry level to allow regulators to demonstrate the health status of Australian pigs for market access purposes.

It is also foreseen that this information could be used to support and inform ongoing risk-based regulatory reforms of Australia's meat inspection, verification and certification systems.

Findings to date

This study has involved all seven export establishments and the rate of total and/or partial condemnations was 3 percent of all pigs processed in four months (June and October 2015; January and April 2016).

Across the processors involved, the disease conditions/causes recorded by processors varied considerably – ranging from seven to 41 recorded conditions.

Not surprisingly, there was considerable variation between processors

for the major causes of carcass defects that led to an intervention by inspectors – and this is considered to reflect differences in what conditions/causes were recorded by each processor.

Of those conditions selected for evaluation in the study (based on the availability of the data received from five establishments), abscesses (including those associated with injections) were the major defect leading to total or partial carcass condemnations (34 percent), followed by arthritis (31 percent), bruising (13 percent), bile contamination (8 percent), pleurisy (4 percent), erysipelas (4 percent), dermatitis (2 percent), peritonitis (2 percent), septicaemia (1 percent) and melanoma (1 percent).

Often, the primary form of feedback from processors to producers to indicate that a partial carcass intervention has occurred is the reporting of reductions in dressed weight.

While only one processor recorded details of the frequency and reasons for trimming, the outcomes are very interesting.

Of all the partial carcass interventions made, 54 percent of all interventions resulted in trimming – with trimming of the hindquarter accounting for 64 percent of these trimming interventions.

Bruising was found to be the major condition resulting in trimming (43 percent), followed by dermatitis (16 percent) and abscesses (15 percent).

No information on the causes of bruising are possible from the data provided by the processor.

This study also aims to quantify economic losses to both producers and processors resulting from total and partial carcass condemnations as well as those for offal.

To my knowledge, this is the first time this has been done for the Australian pork industry.

Losses are being deter-

mined in terms of penalty discounts for incomplete carcasses, loss of carcass weight due to additional trimming, the loss of processing efficiency and costs associated with additional processing and meat inspection labour needed to meet processing agendas.

All these issues contribute to direct economic losses for both producers and processors.

The ability to do this has been constrained by how this information is collected and stored by processors.

This information will be available once the analyses have been finalised.

Other sectors

It is appreciated that many producers utilise private or state-administered pig health monitoring schemes, where information is collected on the slaughter floor every couple of months and reports provided detailing the presence and severity of lesions relating to a variety of production-limiting conditions affecting carcasses and offal.

The provision of real-time condemnation data from processors could be used by veterinarians and state agencies to inform herd health management recommendations for their producers.

The Australian pork industry is not the only livestock sector looking to use real-time information to inform herd health status and management decisions to drive productivity and profitability improvements.

At the recent MINTRAC Meat Inspection and Quality Assurance Conference held on the Gold Coast, a number of speakers discussed programs in the red meat sector that are currently under way or in the process of being implemented for animal health feedback reporting to producers.

Interestingly, a survey of South Australian sheep producers identified that:

- 96 percent of producers stated abattoir feedback was of interest and/or value to them;
- 66 percent of producers have been made aware of a disease or conditions on-farm they were previously unaware of; and
- 40 percent have made a management change resulting from feedback received.

Presentations made can be found on the MIN-

TRAC site at mintrac.net.au

Health 4 Wealth – Rural R&D for Profit project

You may be asking where all this is leading.

In June 2016, APL (in collaboration with Meat and Livestock Australia, Australian Meat Processor Corporation, South Australian Research and Development Institute and the Department of Economic Development, Jobs, Transport and Resources, Victoria) was successful in obtaining funds from the Department of Agriculture and Water Resources to implement a national feedback system to enable consistent recording, standardised reporting and utilisation of carcass and offal condemnation data by pork, beef, sheep and goat producers as part of round two of the Rural R&D for Profit program.

The first stage of this project is currently under way and involves developing business cases across all industry sectors, identifying where opportunities exist for improved capture and transfer of animal health information to increase supply chain value and proposing a path forwards for the development of national species-specific standards to enable consistent and reliable data collection.

We will keep you informed of outcomes as the project proceeds.

Pigs to Pork

The first edition of the APL Research and Innovation division's quarterly publication 'Pigs to Pork' will be distributed to producers in the next week.

This publication showcases key findings from our research programs, highlights our program managers and the achievements of our post-graduate and graduate students.

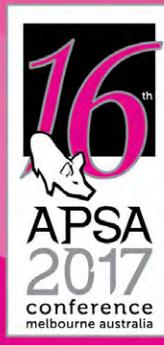
It will also be available on the APL website and the Tech ToolBox app.

We'd appreciate any comments you have on it and any suggestions you may have for future editions.

Finally, it's been a very busy, productive and successful year for us all.

I wish you and your families a safe and very happy Christmas and a prosperous 2017.

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



Australasian Pig Science Association (Inc)

APSA 2017
16th Biennial Conference
Grand Hyatt Melbourne, Australia

19th - 22nd November 2017



Year done and another to come – bring it on

ALTHOUGH 2017 is fast approaching, it seems like 2016 will never end.

While it's been a long, busy and productive year for us at Pork CRC and for you too, no doubt, I think we all have good reason to anticipate next year with a positive mindset.

We have just spent a week or so in Melbourne where we held our final Board meeting for the calendar year and our stakeholders' meeting.

Both went well. Not too many issues arose from the Board meeting and the stakeholders' meeting was very successful, with great feedback from all participants and excellent presentations from program leaders, subprogram leaders, our 'commercialisation custodian' Dr Charles Rikard-Bell, 'student advocate' Dr Alice Weaver and 'end user' Dr Brian Luxford.

APRIL up

The first AGM for Australasian Pork Research Institute Ltd was also held during our time in Melbourne and the Board has now been established.

The new company will hold its first Board meeting on February 27, 2017, so it was a big week and year for Pork CRC and APRIL.

APRIL Board

- Dennis Mutton – chair and independent;
- Mr Andrew Spencer (One of two Australian Pork Limited directors. Second APL director yet to be decided);
- Dr Mel Bridges (member director) – Anantara Life Sciences;
- Mr Kenton Shaw (member director) – Rivalea Australia;
- Prof Robert van Barneveld (member director) – CHM Alliance;
- Prof John Pluske (member director) – Murdoch University; and
- Independent director – yet to be decided.

Thirteen members have signed up and we're waiting on University of Melbourne and SARDI, both of whom are close.

This is an excellent outcome and APRIL will help ensure the additional R&D and training activity generated by Pork CRC will continue to benefit the Australian pork industry once this Pork CRC

concludes in June 2019.



Initiatives

by DR ROGER CAMPBELL
CEO



concludes in June 2019.

Roseworthy course

The 2017 'Pig Science into Practice' course will run at Roseworthy, South Australia, from January 30 to February 10.

The course has been career changing for many and covers the basics plus the latest developments in pork production, from reproduction to marketing, with visits to mills and abattoirs.

If you want to understand the industry and learn the latest from the best, then register now.

Pork CRC covers travel and other costs for the first 15-20 production-based personnel to register for the course, so discuss it with those you need to in your organisation and get your registration in.

This year's course will include a few more social events and is filling fast – so don't miss out.

Details and the registration form are on our website (www.porkcrc.com.au) or can be obtained from Rebecca Smith (rebecca.smith@porkcrc.com.au) or Dr William van Wettere (william.van.wettere@adelaide.edu.au).

Dr van Wettere will be running the course again this year.

China challenge

At the APL Delegates' Forum, several producers asked for a little more information on the Chinese pork industry.

We know it is big and very profitable at the moment, but there are some myths around its competitiveness.

China is currently a high-cost producer of pork, largely because of its poor productivity, high disease loads and somewhat artificially high corn prices set by government, but that's about to change.

It faces considerable challenges and while

there is a desire to become a force in the export arena, this would seem a long way off, largely because foot and mouth disease exists in the country and it can't compete with most other pork producing countries on cost of production – but never say never.

China imported three million tonnes of pork in 2016 (5-6 percent of consumption) and potentially has a gap of 10

million tonnes of pork over the next 10 years.

As you might imagine, there are many countries wanting to tap what they see as a great opportunity.

The total imports will be determined by the Chinese government, which likes to maintain at least 95 percent self-sufficiency for pork muscle meat and the demand is for white offal and items such as feet and ears.

The industry is currently highly supported, with duties on imported pork of 14 percent to 20 percent.

China also charges a value-added tax of 13 percent on imported product, which is waived for domestic product.

Pork producers are also exempt from enterprise tax and receive direct payments from government.

Taken together and initially

continued P4



Pork CRC Board of directors after the Melbourne AGM (left to right) John Pluske, Robert van Barneveld, Kathryn Adams, Andrew Spencer, Dennis Mutton, Kenton Shaw, Pauline Mooney, Sandra Di Blasio and Chris Trengrove.



The inaugural AGM for Australasian Pork Research Institute Ltd was held at Melbourne Airport ParkRoyal Hotel on November 23.



Living proof that the serious business of a stakeholders' meeting and an AGM can, at times, have a humorous side.

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This year done and another to come – bring it on

from P3

cluding shipping costs, the duties and other imposts bring the difference in the price of Chinese and US imported pork, which differs in COP by 58 percent, to next to zero.

This is a well thought-out strategy but there is potential for things to change in the future, especially as Chinese consumers have little confidence in domestically produced food and prefer imported pork to their own domestically produced product.

The statistics have to be taken with a 'grain of salt' because what is reported is what is deemed good

for the country and a classic example is the per-capita consumption of pork.

The 'official' figure is above 40kg but the real figure is probably closer to 27.5kg, which is good news for China because it means it has tremendous upside consumption potential.

So, it's an area to keep an eye on, but remember that a win-win in negotiations with the Chinese generally means they win twice.

Highlights 2016

Pork CRC research outcomes with the greatest potential impact on industry in 2016 were:

1C-105: Effects of floor

space on the welfare of group housed sows – Paul Hemsworth, University of Melbourne – definitive information on effects of space on sow welfare and reproduction and will play a major role in the upcoming standards and guidelines review of pork production.

1C-103: Optimising the management of group-housed gestating sows – Paul Hughes and Kate Plush, SARDI – potentially profound outcomes on means of reducing aggression in group housed sows, a simple means of enriching the environment of group housed sows and results showing that

grouping lactating sows and litters in last week of lactation with daily boar contact markedly improved subsequent litter size, especially in sows mated after weaning.

1C-115: Nutritional management strategies to reduce aggression at mixing of unfamiliar sows – Tracy Muller, CHM Alliance – led to the development of the Ridley Sow Enrichment Block that is now available through Ridley.

There are many reports on the behaviour and welfare of group housed sows and the science generated is first class.

The adaptive behaviour of sows over time and between parities is quite fascinating and I am not sure we still fully understand the implications.

Nevertheless, our researchers continue to explore the area.

2A-114: Identifying, tracking and controlling swine dysentery in Australian pig herds – Dave Hampson, Murdoch University – showed apparently healthy herds can be and are infected with swine dysentery and

new isolates discovered in this and a previous project shown to be pathogenic.

There is a need for testing and constant surveillance.

2C-115: Establishing the underlying causes of pleurisy – Conny Turni, University of Queensland – established the major pathogens associated with pleurisy, their antimicrobial resistance and suggested vaccination procedures against mycoplasma and PCV2.

May need to be revisited.

2C-116: Live attenuated actinobacillus pleuropneumoniae vaccine strains – Conny Turni, University of Queensland – excellent progress made in the attenuation of all Australian strains/serovars and efficacy tests about to start.

2C-118: Using microencapsulated ingredients to enhance efficacy and improve production efficiency within an integrated health strategy – Rob Hewitt, CHM – microencapsulated ZnO and essential oils and organic acids with potential to reduce level of ZnO in first stage weaner diets by 70 percent and to improve feed efficiency in second and late-stage weaners and maybe older pigs by 6-8 percent respectively.

3B-112: Nutritional composition of pork – Ken Ng, University of Melbourne – demonstrated that the iron content of pork has increased markedly between 2006 and 2016.

4B-112: Optimising particle size distribution for grains and protein sources – Peter Sopade, University of Queensland – showed that for sorghum and peas included in weaner pig diets at 50 percent and 30 percent respectively, optimum particle size (for growth

rate and feed efficiency) is between 0.4mm and 0.8mm and independent of the mill used to process the grain.

Also showed average particle size at end of the ileum was 0.16mm, irrespective of the average particle size of the diet of milled grain.

4C 104 and 4C 110 Bioenergy support program – Dr Stephan Tait, University of Queensland and Alan Skerman, Department of Agriculture & Fisheries, Queensland – highly successful projects leading to the uptake and more efficient utilisation of methane capture from effluent streams and use for power.

4C-117: Benchmarking the performance of Australian pork with life cycle assessment – Stephen Wiedemann, Feedlot Services Australia – a comprehensive and fascinating report on greenhouse gas emissions across the pork supply chain.

Averaging around 3kg of GHG emissions (CO2 equivalents) per kilogram of pork produced.

Greatest emissions from effluent systems, which can be reduced by 34-64 percent by covering effluent ponds and capturing and using the methane generated.

GHG emissions 38 percent lower from deep litter systems and very much related to herd feed efficiency.

All reports are available on Pork CRC's website and most have been discussed on numerous previous occasions, but I'm always happy to discuss further, or you may contact the researchers involved.

The good news is we have 51 active projects and I expect many will deliver genuine system changing outcomes.

International front – the sow calliper

The sow calliper provides a simple and objective means of assessing and better managing sow body condition.

Invented in the US and now widely used to manage sow body condition, cost-effectively manage gestation feeding programs and improve reproduction.

Quite a few Australian operations are using it now.

Contact me if you want further detail.

Set time AI

It appears the Elanco Ovugel product will be available next year and it's one certainly worth trying, with the potential to reduce the labour associated with oestrus detection and to use one dose of semen.

Pork CRC research suggested the technology might help reduce summer infertility.

Post-cervical AI

I have been pushing this for a while.

Post-cervical AI is now used with more than 40 percent of sows in the US and increasing uptake in Australia.

It takes some training but markedly reduces time to AI sows and staff seem to like the system once they adapt/adjust.

Higher omega-6 fatty acids and ratio to omega-3 in lactation diets on summer fertility – hopefully a commercial study will be conducted this summer.

Watch this space. Please don't hesitate to make contact for any additional information on any subject.

Finally, I wish you all a safe and happy Christmas and hope that 2017 is even better for the industry and your businesses than 2016.

It's shaping up that way, but best if we take it quarter by quarter.

www.porkcrc.com.au

Business indicator	2015	2016
Sows (million)	41.0	41.5
Pigs weaned/sow/year	16.3	15.7
Pre-weaning mortality (%)	15.2	16.2
Carcass weight (kg)	77.5	79.3
Carcass weight/sow/year	1259	1244
COP (\$/kg carcass weight)*	3.42	3.50?
Feed cost (\$/tonne)	450-500	466
HFC	4.0-4.6	4.0-4.6

Figure 1: Average productivity and costs of the Chinese pork industry in 2015 and 2016. *In 2015, COP for the larger production companies in China was around \$A2.70/kg carcass weight and this is the direction the industry is being taken.

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Notice of PQI AGM

PORK Queensland Inc would like to advise of our annual general meeting to be held by teleconference on Friday, January 19, 2017.

Queensland pork producers who are current members or who are interested in understanding the functioning of PQI and membership should reply to my email for details of the meeting and dial-in numbers.

PQI provides an advocacy and representative role for members on a wide range of issues including intensive livestock regulation impacting on pork production; support in seeking offshore labour applications; and emergency response support including exotic disease preparedness.

Directors give their time free of charge in an effort to provide ongoing support for





President's Perspective

by JOHN COWARD

Queensland pig farmers and industry stakeholders.

PQI offers membership for all pig farmers at the rate of \$150 per annum for producers with less than 200 sows and only \$300 per annum for producers with 200 or more sows.

Current issues PQI is engaged in with regulators and supported by Australian Pork Limited include a reduction in fees associated with the recovery of biogas and the ongoing debate around the excessive fees to be a pig farmer in Queensland.

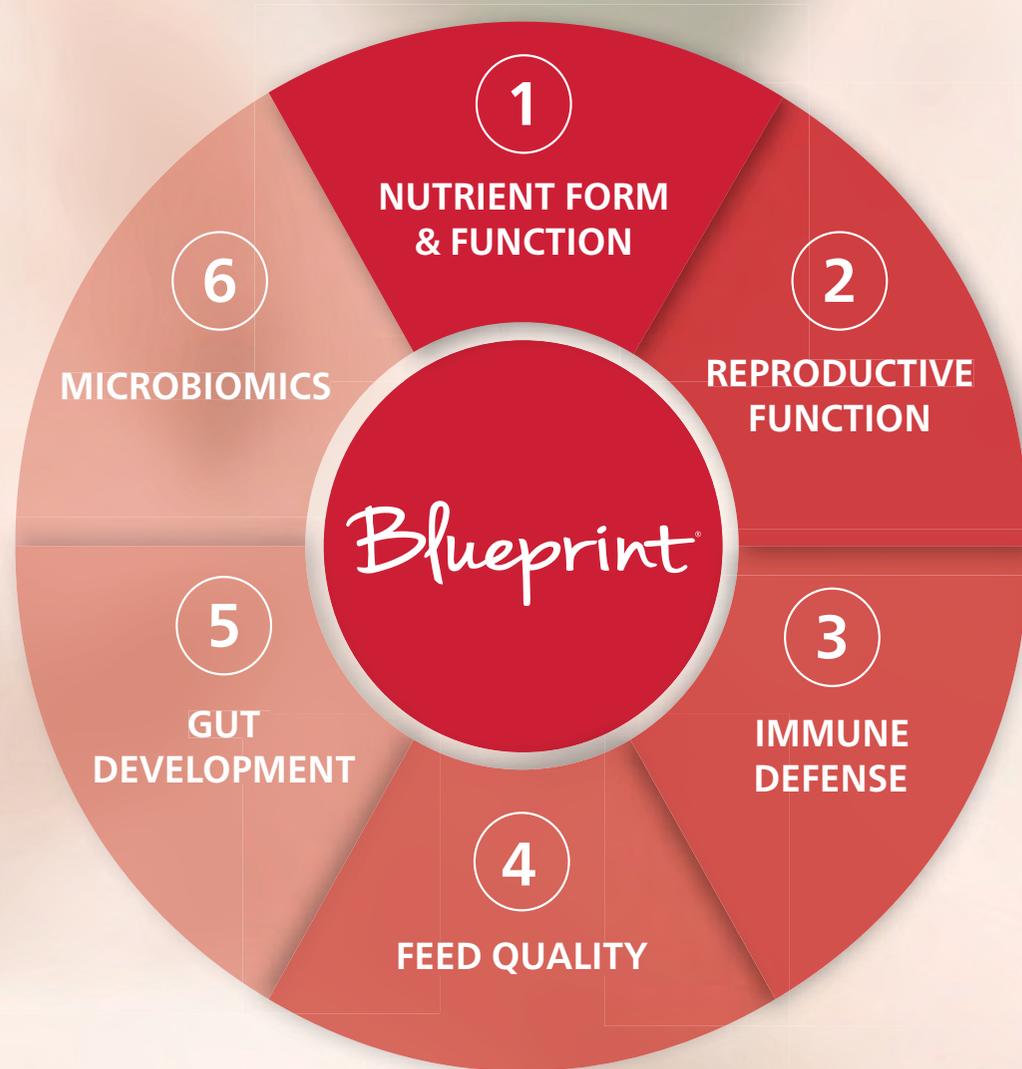
PQI is also an associ-

ate member of Queensland Farmers' Federation, providing a range of industrial relation support functions related to the employment of staff as well as a wide range of representative roles linked with other intensive livestock farmers to have a voice of strength on key issues.

PQI wishes all producers and their families a safe and happy festive season and a prosperous new year.

Please email or contact me on 0407 622 166 if you would like to be in attendance at our AGM.

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Australian pork industry elects new director

AUSTRALIAN Pork Limited recently hosted its 2016 Delegates' Forum, annual conference and annual general meeting after a positive year for the industry.

APL chairman Mr Enzo Allara said the week of meetings was important for industry representatives to come together to discuss major issues, achievements and opportunities for the future.

This was the first meeting for the recently elected delegates who will be representing the industry for the next three years.

A key highlight was the APL AGM and the elec-



tion of directors for the next year.

"We have voted on directors and received updates on how major industry initiatives have progressed since the last time we met," Mr Allara said.

"These events are a great opportunity for industry participants to voice their opinion and get all the lat-

est information."

After the AGM, APL is pleased to announce the election of Ms Edwina Beveridge and the re-election of Mr Andrew Johnson by the largest delegate group in APL's history.

While Ms Beveridge has been an APL delegate for the past three years, this will be her first year on the APL Board, a position she is keen to get started in.

"We work in such a complex environment, and I have faced so many challenges over the past few years, learnings that will assist in representing the industry on the APL

Board," Ms Beveridge said.

"It is important that we learn and grow as an industry."

Mr Johnson will be returning for his seventh year on the APL Board.

"It's important to make sure we are moving forwards as an industry and I'm excited to be a part of ensuring the future is prosperous," Mr Johnson said.

On behalf of the Australian pork industry, APL thanks Mr Kingma for his enormous and valuable contribution to the industry for the past 12 years.

Mr Allara said enthusiasm for the industry is critical to delivering further growth, profitability and value to our stakeholders.

"Ms Beveridge is a very experienced and capable industry participant and will be a great addition to the Board," he said.

Mrs Kathy Grigg was reappointed for a further term as an APL specialist director.

Dr Brian Luxford, Mr David Plant, Mr Rod Hamann, Mrs Kay Carey and Mr Geoffrey Starr remain on the Board, with Mr Enzo Allara remaining the chairman.

APL is responsible for enhancing opportunities for the sustainable growth of the Australian pork industry by delivering integrated marketing, innovation and policy services through the pork industry supply chain. 🐷



Newly elected APL director Edwina Beveridge. Photo: Seth Buchanan

Pig Farm Perspective by Bruce the brainy pig



WITH summer well and truly under way, I've been discussing summer infertility with producers and ways in which we can reduce its effect.

While my current go-to resource is the Pork CRC protocol on summer infertility 'Preparing for the summer months: seasonal infertility and beyond', many producers often question me regarding widespread recommendations on the addition of betaine to the sow feed.

Most often the first question I hear is: What is betaine and what does it do?

Betaine is an extract from beetroot, and has for some years been used as a supplement in finisher pigs to aid in enhanced water retention and reduce energy requirements for maintaining electrolyte balance.

Betaine has also been found to increase the tensile strength of the gut, which can be weakened during periods of heat stress.

This increase in tensile strength can reduce

the effect heat stress has on digestion and reduced nutrient digestibility.

As such, betaine was found to increase lean growth, reduce maintenance energy requirements and improve heat tolerance in grower/finisher pigs.

In recent times betaine has been studied to assess its effects on reproductive traits of gilts and sows.

Betaine is what is known as an 'organic osmolyte', meaning it allows for cells to retain water, increasing heat tolerance and reducing the energy requirements for maintaining electrolyte balances.

This reduces the risk of dehydration and has the additional advantage of reducing energy usage at a time (summer) when sow feed intakes (and hence energy intakes) are reduced.

Pork CRC studies have found that exposure of sows and gilts to high environmental temperatures both before and during embryo implantation (up to 40

days post-conception) can inhibit:

- Development of embryos;
- Sow (maternal) recognition of pregnancy;
- Embryo and foetus survival;
- Increased gilt ovulation rates, particularly when environmental temperatures are above 35C; and
- Increased total litter size of higher parity sows by 1.6 piglets.

As can be found in the take-home messages of the Pork CRC summer infertility manual, betaine supplementation of gilt diets during summer may improve growth rate and reproductive performance and increase litter size of older parity sows, particularly during summer.

This was estimated to cost between 5.3 and 6.3 cents per sow, per day.

Addition of betaine to the diets of breeding stock may improve reproductive performance over summer and is a useful strategy to keep in mind.

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Pork CRC IPP delivers the goods

PORK CRC's widely acclaimed education and training platforms, which have long supported Honours, Masters, PhD and post-doc students, now boast a maturing, well-regarded industry placement program that puts graduates within the industry.

Typically placed with Pork CRC participants, graduates are then trained in the business of pork production and remain active in research and Pork CRC activities.

As Pork CRC CEO Roger Campbell says: "It's a partnership where funding and training is shared, young people get a start in industry and industry benefits from their enthusiasm and injection of fresh ideas and knowledge, which is often cutting-edge science."

Alice Weaver, who officially commenced as a technical officer at Jeff Braun's 'Myora Farm' at Mount Gambier, South Australia on August 3, where she is responsible for implementing and coordinating the piggery's R&D, is a notable example of the program's positive impact on students and industry alike.

Dr Weaver, whose PhD was supported by Pork CRC, was the first person to be awarded an IPP appointment under the South Australian Government's \$500,000 funding to Pork CRC.

Addressing the 2016 Pork CRC stakeholders' meeting in Melbourne on November 25, she was glowing in her praise of Pork CRC's commitment to its education and training program, students in general and the IPP program in particular.

After growing up on a mixed sheep and cropping enterprise at Kapunda, South Australia and completing a Bachelor of Sci-



Cant Comment
by
BRENDON CANT

ence (Animal Science) at the University of Adelaide in 2008, she admitted to being at a loss as to what to do next.

Encouraged by her sister to do an additional Honours year and to choose the supervisors and area she wanted to work in, Alice started her Pork CRC funded Honours with Will van Wettere and Karen Kind at the University of Adelaide in 2009.

Her topic: Effect of a high fibre diet on oocyte quality.

She enjoyed it so much she decided to pursue a career in research and subsequently commenced her Pork CRC supported PhD, which researched stimulating a fertile oestrus in lactating sows and the subsequent effect mating in lactation had on oocyte quality and embryo survival.

Dr Weaver enthused that her Pork CRC supported PhD gave her amazing opportunities, including travel to Canada to present research at two conferences and work at the University of Alberta

with Prof George Foxcroft and his team; Poland for the International Conference on Pig Reproduction; Germany to visit swine equipment manufacturer Big Dutchman; and the Netherlands to visit Wageningen University and Sterksel Swine Innovation Centre.

She also presented her research three times at Australasian Pig Science Association conferences and described the experience as daunting but a great learning curve for her and other Pork CRC students, especially the networking.

Dr Weaver said she also believed the professional development opportunities available to what she referred to as members, like her, of the 'Pork CRC family' were a big plus for students.

"I was with Pork CRC for seven years and in

that time attended many conferences and industry events that advanced my professional development and broadened my network," she said.

Aside from Dr Weaver, Pork CRC IPP recipients and their IPP employers, so far, include Dr Rebecca Athorn, Rivalea Australia; Tracey Muller, CHM/SunPork; Dr David Lines, APFG/SunPork Farms; Claire Payne, Craig Mostyn Group; Vanessa Morris, Chris Richards & Associates; and Anthony Martyniuk and Sarah Medhurst, both of SunPork SA.

Thirty-six-year-old veterinarian Sarah Medhurst, formerly a swine veterinary consultant and APIQ✓ auditor for nine years with Pork CRC participant Chris Richards & Associates, is the most recent IPP, commencing her placement in October.



Alice Weaver (left), Pork CRC Industry Placement Program at Myora Farm, SA, assisted Megan Hawley, Pork CRC PhD candidate at Flinders University, during one of the student workshop group activities at the 2016 Pan Pacific Pork Expo.

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Wishes you a merry Christmas and happy New Year!



Veterinarian Sarah Medhurst is the latest Pork CRC IPP. She was pictured at the Pork CRC's 2016 stakeholders' meeting in Melbourne. As part of her two-year IPP, she will attend, with Pork CRC support, other events such as APSA and PPPE.



Pork CRC IPP Claire Payne works with Craig Mostyn Group at the company's Linley Valley Pork works at Woolooloo in Western Australia.

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Toowoomba conference highlights future industry opportunities

AN impressive array of pork industry identities covered a range of topics for more than 150 delegates at a recent industry conference in Toowoomba, Queensland.

At the 'Preparing for fu-

ture challenges – where will your businesses be in 2025?' conference, delegates learnt about new air freight opportunities from Wellcamp Airport, a realistic overview of opportunities in Asia, future food

requirements and food production systems, antibiotic use, business costs, weaner management and herd-health strategies.

The Queensland Pig Consultancy Group organised the event with

help from Sara Willis at the Department of Agriculture and Fisheries and support from Australian Pork Limited.

Ms Willis said keynote speaker and Wagner Global Services chairman John Wagner discussed the region's agriculture opportunities.

"Mr Wagner spoke of how we're moving from a 'mining boom' to a 'dining boom' and that there are increased opportunities from his family's development of the Toowoomba Wellcamp Airport and Business Park," she said.

"In November 2016, Cathay Pacific started using Wellcamp to provide a weekly cargo freight service to China.

"Mr Wagner said this will increase to 15-18 flights per month by 2025 and the completion of the second Toowoomba Range crossing and proposed inland rail system will improve access to Asia and in particular China for regional agricultural products."

The Asia theme continued with CEO of Toowoomba and Surat Basin Enterprise and Food Leaders Australia Dr Ben Lyons who highlighted the opportunities in Asia for Australian produce.

He outlined key changes in the Chinese policy of food demand, which includes a shift to protein products, increased demand for high-value safe sources of food and the realisation that domestic food production is expensive and the mantra of self-sufficiency was a thing of the past.

Dr Lyons believes there are export opportunities for pork provided the regional product could be differentiated by production system, quality and product safety.

He also spoke of the importance of first-hand market knowledge and referenced a chartered flight to China from Wellcamp on a fact-finding mission.

APL general manager Marketing Peter Haydon continued the theme, discussing future food requirements and food production systems.

He indicated that within 30 years the world's population would require up to 70 percent more food and China's food demands would double.

Mr Haydon recognised the current demand for pork was outstripping supply but that investment leading to an increase in sow numbers could see an oversupply of pork in the not-too-distant future.

He outlined the plans APL was putting in place to minimise the predicted impact of oversupply on producer returns by reviewing APL's promotional focus.

APL Production-Stewardship manager Dr Pat Mitchell discussed the worldwide concern regarding the use of antibiotics and how pork producers need to review their management programs.

Among Dr Mitchell's advice was to minimise live pig and semen introductions, use one genetic supplier, control four-legged, two-legged and feathered rodents and pests, train staff and use a knowledgeable consultant.

Those in attendance also heard from Dr Andrew Morris of Chris Richards and Associates who discussed a series of practices that could reduce reliance on antibiotics, contain health costs and improve performance.

He said key issues included the climatic and social environment, feed and water quality and access, air quality, group stability and mixing.

Dr Morris said herd health is dependent on giving the right dose at the right time, every time and that stress from competition for feed and water access, mixing and boxing prior to slaughter could trigger health issues.

Rounding off the health advice, attendees heard from Trouw Nutrition Asia Pacific Technical Commercial manager Istvan Bessenyei who discussed the management of the piglet from birth to 42 days of age.

Looking to the future, he forecast that in Europe each sow would be producing 3500-4000kg of live pigs per year.

He said the increase in weight produced will be the result of an increase in pigs weaned per litter and he forecast 38 pigs weaned per sow, per year in Europe by 2018.

A consequence of high litter size is a fall in average birth weight, an increase in variation within the litter and a reduction in the quantity of milk available per piglet, challenging the skills of the stockperson.

Ms Willis said she covered business issues within the farm gate by analysing costs to determine business priorities.

She suggested producers need to know where their business is now, and where it has come from, before it's possible to make sound logical decisions on future investment.

"I used DAF's pig meat: feed price ratio to illustrate the current profitability of the industry and also to remind the delegates of the troughs in profit experienced historically every few years," she said.

"I acknowledged the current buoyancy was encouraging expansion but suggested that improving efficiency would be a more appropriate strategy for many businesses."

Pigco Victoria director Ian Peace shared the approach and plans his company has for investment in the industry.

The Pigco vision has been to develop a leading high-welfare intensive production system that benefits customers and generates sustainable predictable returns to investors.

Attendees also heard from SunPork Farms' Tong Park Piggery business manager Rob Martyn who discussed the importance of managing people and how his company was working towards building and retaining a successful team.

The company, which runs about 9000 sows, is committed to showing young people the benefits of being involved in the industry.

The piggery is prepared to invest in future leaders, provide the tools to allow staff to perform and promote within the company staff who perform and demonstrate leadership skills.

Ms Willis said the conference was full of informative presentations and the feedback she has received has been overwhelmingly positive.

"I'd like to thank everyone involved for such a successful event," she said.

For further information on any of the presentations, please email sara.willis@daf.qld.gov.au or phone 0423 027 053.

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John Wagner presented at the QPCG conference. Photos: Peter Bedwell



Ben Lyons and Neil Gannon highlighted opportunities in Asia for Australian produce.

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Transport obligations – what you need to know

TRANSPORT can be stressful for pigs if not carried out correctly.

All pigs must be transported in accordance with the Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock (the Land Transport Standards).

The Land Transport Standards aim to ensure effective management practices are in place for good welfare outcomes and to minimise risks to livestock welfare during transport, including for pigs.

These standards cover planning and preparation for transport, time off water and fitness for the journey.

When transporting pigs, a few key things need to be remembered:

- Transporting of pigs should be done in a way that minimises stress, pain and suffering. Stock selected for transport should be fit and healthy, in good condition and able to stand for extended periods.
- Take precautions – if you are unsure if a pig is fit for its intended journey, it is better not to load the pig or seek veterinary advice.
- Pigs should be handled quietly and patiently, especially in new environments, to minimise the stress on the pigs.
- Pigs should always be moved with a stock board.
- Hitting or continual prodding of pigs is not acceptable, and prodders

not be used for pigs weighing under 60kg.

- If pigs show signs of stress, such as sudden lying down, panting, trembling and with a blotchy skin appearance, they should be allowed to rest and relax before being transported or moved.

- Transport should occur early in the morning or late in the afternoon and stocking densities should be lowered by 10 percent if the temperature is above 25C.

- Travelling during hot and humid conditions should be avoided if possible – this can be dangerous to the health of pigs because they are unable to sweat to regulate their body temperature. In some parts of Australia, high and humid temperatures are the norm. Take steps to ensure stress on the pigs is minimised during loading and while on the truck.

- In cold weather, wherever possible use vehicles with enclosed fronts, covering the sides of the vehicle with tarpaulins and providing bedding where possible. These precautions should help to minimise cold stress.

- Vehicles should have non-slip flooring that will not injure hooves or legs.

- The journey must adhere to water and food deprivation requirements.

- Vehicles used for transport of pigs must be able to be thoroughly cleaned.

These standards are being regulated through

laws in each state and territory.

They are currently in force in South Australia, Tasmania, NSW, Victoria and Queensland and can be found online at animalwelfarestandards.net.au/land-transport

In 2015-16, Australian Pork Limited commissioned an analysis of animal welfare in saleyards.

In addition to infrastructure, pig handling and biosecurity concerns, some pigs are arriving at saleyards unfit for transport.

In some cases, these animals are put down with the producer being charged for the cost of disposal, with this occurring on repeated occasions.

Moreover, pigs unfit for the journey place all those in the transport chain in jeopardy for contravening the Land Transport Standards.

The new 'Is It Fit for the

Intended Journey Guide', previously known as the 'Fit to Load Guide', is now available from APL.

The guide is a training tool, which will assist producers and stockpeople handling pigs to make informed decisions concerning the fitness of stock prior to and during loading.

APL is currently mailing hard copies of the 'Is It Fit for the Intended Journey Guide' to producers. However, if you would like an additional hard copy of the guide, please contact Ashley Norval on 02 6270 8823 or Ashley.Norval@australianpork.com.au

If you have any questions regarding transport obligations, please do not hesitate to contact me on 02 6270 8832 or email Jessica.Edington@australianpork.com.au

Jessica Edington
APL Senior Policy Officer

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Strengthening agricultural ties with China

AUSTRALIAN farmers, researchers, and agricultural industry experts will play a growing role in meeting global demand for high-quality food products, according to Assistant Minister to the Deputy Prime Minister Luke Hartsuyker.

Minister Hartsuyker recently attended the China Food Security and Food Safety Summit in Beijing on behalf of Deputy Prime Minister Barnaby Joyce.

"Improving global food security and food safety requires close and co-operative relationships, with an emphasis on open dialogue, knowledge sharing and the application of innovative technologies," Minister Hartsuyker said.

"Both Australia and China place enormous value in our agricultural sectors and recognise the importance of agriculture in building the wealth and lifestyle of our nations.

"Governments and industries of Australia and China are committed to working together to harness research and develop-

ment, as the need for agricultural productivity becomes ever more important."

Minister Hartsuyker said the visit also presented an opportunity to reflect on the success of the China-Australia Free Trade Agreement, which entered into force in December 2015.

"China has become the world's second-largest importer of agriculture, food and fishery products, worth almost \$US120 billion in 2014," he said.

"China has also become Australia's biggest market for agricultural products, with exports of about \$11.1 billion in 2015.

"Agreements like ChAFTA will help Australian producers build on this success and drive better returns for Australian farmers and producers.

"Australia and China boast strong agriculture sectors with the potential to make significant contributions to food security not only in our own nations but across our region and around the world."



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References: 1. Kim D *et al.* Vaccine 20. 2011; 3206-3212. 2. Seo HW *et al.* Vaccine 2012; 6671-6677. © 2014 Zoetis Inc. All rights reserved. Zoetis Australia Pty Ltd. ABN 94 156 476 425. Level 6, 5 Rider Boulevard Rhodes, NSW 2138. www.zoetis.com.au 06/15 TPAH0177

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Talking Topic: Cleaning piggery biogas

PORK CRC's Bioenergy Support Program is a key component of Pork CRC Subprogram 4C, providing technical assistance to pork producers interested in developing and operating on-farm biogas capture, treatment and use systems.

With valued assistance and support from several producers who have pioneered the development of on-farm biogas systems in Australia, program leader Dr Stephan Tait (University of Queensland) and myself as principal environmental engineer (Queensland Department of Agriculture and Fisheries) have produced the Talking Topics series of practical and informative brochures outlining key concepts in understanding, developing and operating safe, cost-effective and productive on-farm biogas systems.

Key principles and recommendations from the recently released Talking Topic 4 'Cleaning Piggery Biogas' are summarised in this column.

Biogas is produced by the anaerobic decomposition of manure in piggery effluent ponds.

On-farm biogas use for



by **ALAN SKERMAN**
Leader, Pork CRC Bioenergy Support Program



heating and electricity generation reduces energy costs and decreases piggery odour and greenhouse gas emissions (see Talking Topic 3 'Covered Lagoons') and can also provide income from the sale of excess electricity back to the grid and the sale of renewable energy certificates.

Piggery biogas consists primarily of 55-70 percent methane (CH₄) and 30-45 percent carbon dioxide (CO₂).

However, it also contains significant amounts of moisture and relatively high levels of toxic and corrosive hydrogen sulphide (H₂S).

While the high methane content of piggery biogas ensures it is an excellent fuel, it generally requires

some treatment and/or cleaning to remove moisture and H₂S before it can be used safely and cost effectively on-farm.

However, the required extent of biogas treatment depends on the intended use of the biogas.

For example, simple flaring of biogas may not require any treatment, while use in a hot water boiler generally requires a lower level of treatment compared with running stationary reciprocating engines for on-farm electricity and heat generation (combined heat and power systems).

While biogas can potentially be refined to high-quality bio-methane standards for use as a vehicular transport fuel or injection into a natural gas

grid, these uses have not been developed at Australian piggeries due to the cost and complexity involved in removing CO₂ and other contaminants from the biogas.

Moisture removal

Piggery biogas is generally saturated with moisture (that is, laden with water vapour) when initially extracted from covered effluent ponds.

Because biogas moisture content increases with temperature, under sun-baked covered lagoons it can contain 0.2kg of moisture per cubic metre of biogas.

As the biogas cools, this moisture condenses to a liquid, which may accumulate in pipelines and fittings, restricting biogas flow to appliances such as

boilers and engines.

Consequently, controlled cooling of the biogas, often using chilled water supplied by an electrical chiller, is commonly used to capture and remove the condensate before it causes problems.

Alternatively, one Pork CRC demonstration piggery is trialling passive pre-cooling by passing the biogas, in an up-flow direction, through a tank packed with plastic elements (pall rings) while relatively cool liquid effluent, supplied from a secondary treatment pond, is sprayed over the top of the packing.

Conveying the biogas through underground pipelines also cools the biogas without using any external energy, however, it is important to lay the pipeline on a sufficient grade (minimum 2 percent) to allow the condensed moisture to flow back to a collection drum.

Condensate collection drums (knock-out pots) installed on above-ground pipelines can be set up to self-drain condensate when it has accumulated to a particular level in the drum, thereby requiring little to no human intervention.

For below-ground installations, a condensate collection drum may require a pump to remove condensate on a semi-regular basis.

There are several 'off-the-shelf' condensate collection drum products available on the market.

Hydrogen sulphide

Piggery biogas typically contains H₂S at concentrations of 500-4000ppm, which is highly corrosive and toxic to humans and livestock.

Hot water systems usually require biogas H₂S concentrations of less than 1000ppm and internal combustion engine generators less than 200ppm.

At higher H₂S concentrations, serious corrosion of appliance components and metallic fittings may significantly limit their working lives and/or ongoing maintenance requirements may be excessive.

While several treatment technologies are commercially available for removing H₂S from biogas, Pork CRC demonstration piggeries are trialling a combination of biological oxidation and chemisorption treatment steps that were selected for their relatively simple, safe and cost-effective operation at piggeries.

Treatment of biogas in this sequence minimises cost, maximises safety and ensures biogas is treated to a consistently high quality.

Biological oxidation

In this treatment method, micro-organisms (thiobacillus), which are naturally present in pig manure treatment lagoons, convert the H₂S in the biogas into elemental sulphur (a solid), which is then separated from the treated biogas.

These micro-organisms need moisture, nutrients and some oxygen to function.

It is important to carefully regulate the amount of air added to the biogas (to provide the oxygen needed for treatment) to

avoid creating an explosive air-methane mixture.

While biological oxidation can be achieved by adding small amounts of air directly to a digester or covered pond, Pork CRC demonstration piggeries are currently trialling this biogas treatment method in 10,000-litre fibreglass tanks installed downstream from the covered ponds.

Treated liquid effluent is sprayed over a bed of plastic pall rings, housed in the fibreglass tanks, to provide the nutrient source for sustaining the growth of the micro-organisms growing on the biofilm that becomes established on the packing elements.

The biogas enters the base of the tank and flows up through the packed bed before exiting at the top of the tank.

In recent trials, this low-cost system effectively removed 90 percent of the H₂S from the biogas without the use of any chemical additives.

These biological oxidation systems, fabricated on-farm at an approximate material cost of \$20,000, are currently treating biogas flow rates of about 150cu m an hour from covered ponds servicing piggery units accommodating 15,000 standard pig units.

While biological oxidation treatment systems appear to effectively remove a large percentage of the H₂S from the biogas, given the high and fluctuating levels of H₂S in piggery biogas, the residual levels of H₂S in the biogas following treatment may be too high for safe use in some appliances that require consistently low levels of H₂S for trouble-free operation.

Consequently, some form of secondary treatment, such as chemisorption, may be required to 'polish' the biogas quality to the required standard.

Chemisorption treatment

Chemisorption is a chemically based treatment step to remove any remaining H₂S from the biogas after treatment in the biological oxidation step.

Chemisorption involves passing the biogas through a column containing a solid medium.

The active ingredient in the solid medium is typically iron oxide, which reacts chemically with the H₂S to form iron sulphide.

Several commercial chemisorption media can be bought for use in this treatment process, how-

ever all chemisorption media eventually require replacement once the reactive capacity of the medium in the column is consumed.

Alternatively, some media may be partially regenerated by passing air through the column or by removing the batch of spent medium from the column for exposure to air prior to placement back into the column.

While regeneration may prolong the life of some chemisorption media, they eventually require replacement, typically after a few regeneration cycles.

It is important to note that a large amount of heat is released by the chemical reaction that occurs when used chemisorption media are exposed to air during the medium changeover/batch regeneration process.

It is generally recommended that the media be kept wet during this process to avoid possible spontaneous combustion and the release of hazardous gases, namely sulphur dioxide (SO₂) and sulphur trioxide (SO₃), which can severely irritate eyes and airways.

Consequently, piggery workers performing solid media change-outs require training and need to wear appropriate personal protective equipment to avoid adverse health impacts.

All treatment vessels should be designed to allow easy and safe access for the removal and replacement of the solid chemisorption medium.

Recent research has compared the H₂S removal performance of a commercial medium with that of several low-cost alternative media.

This research suggested that a naturally occurring red soil, having a high iron-oxide content, had some capacity for removing H₂S from biogas, however its performance was considerably inferior to commercial iron-oxide pellets.

Nevertheless, some red soils may provide a low-cost option for polishing biogas quality following primary treatment in a biological oxidation system.

Further information regarding biogas cleaning is provided in Talking Topic 4 'Cleaning Piggery Biogas', which is available from porkcrc.com.au/news-events/publications.

Alternatively, contact me on 07 4529 4247 or email alan.skerman@daf.qld.gov.au

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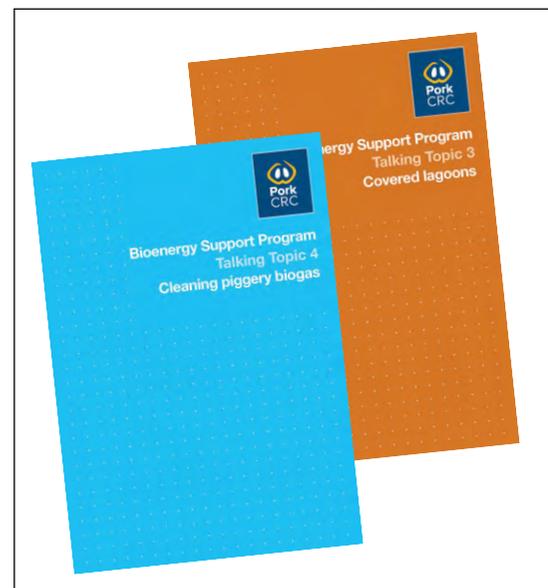
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Boehringer Ingelheim supports autism employment initiative

BOEHRINGER Ingelheim Australia has committed to supporting Autism and Agriculture alongside the South Australian Government, SunPork Farms, Pork CRC, Autism CRC and Specialisterne.

Autism and Agriculture is an initiative intended to help people with autism find employment within the pork industry.

Specialisterne specialises in placing autistic people in suitable employment and supporting the employment process from advertising a position through to training and job readiness.

Autism and Agriculture is a world-first pilot program aimed at employing adults with autism to enhance animal care.

Autism affects more than 1 percent of the population and autistic people can find that employment is difficult to find, sometimes poorly paid and can be hard to maintain long term.

The pilot aims to employ a minimum of eight autistic adults on SunPork Farms sites across South Australia and Queensland.

There are benefits in this program, not just for the individuals employed, but all the staff on the farms, the welfare of the pigs and when successful the wider pig industry as an under-utilised but very capable resource is included in the industry's human resource.

It is also a benefit to the wider community to be increasing the understanding of autism.

Autism and Agriculture recently held an information day at SunPork's Tong Park Piggery in Queensland for the 100 staff who work on the piggery.

Dr Sean Daly, Dr Ruel Pagoto, Phillip Marr and Sam Custodio attended from Boehringer Ingelheim.

As well as assisting during the day, Sam and Ruel translated the notes for the day's talks into Filipino for the large proportion of the staff for whom English was a second language.

This was much appreciated by the staff.

The team at Boehringer Ingelheim will also be involved in the future training of new staff on the correct use of their vaccines in the field.

The afternoon began with an introduction to autism.

This was very informative because it became clear how little the group really knew about autism.

Such understanding helps the wider community reduce the stigma around autism.

Many of the real-life examples of living with autism struck a real chord with the staff.

An example of this is an ability of autistic people to understand and work very well with animals.

The highlight of this session was when one of the consultants to Specialisterne, Zach Zaborny, who was diagnosed with autism when he was eight years old, spoke about his personal experiences with autism and how he had worked successfully with it.

The management of Tong Park spoke about how the project was going to be rolled out on the farm and some of the plans that were in place for making the project a success.

The staff members also gave an example of how

this program is improving working conditions for everyone, not just the new recruits.

Showering when entering the farm was identified as a potential challenge for new workers with autism because the shower facilities can be quite 'confronting'.

To assist with this, management at Tong Park is going to improve the shower facilities to allow more privacy.

The current staff is very happy about this change as well.

Kirsty Richards from SunPork Farms said, "The project has emphasised the importance of our staff to us."

"As Tong Park expands, we hope to identify more opportunities to optimise the work environment for our entire human resource."

A question and answer session followed, which really showed the interest from the Tong Park staff members and their support for the project.

When asked what Boehringer Ingelheim's support meant to the project, SunPork Farms managing director and group CEO Rob van Barneveld said, "Boehringer's investment and involvement in our Autism and Agriculture project reinforces the importance of the initiative to the pork industry as a whole, first in Australia and then hopefully in other countries."

"As a company, Boehringer has recognised that by focusing on an individual's strengths, and by embracing diversity, there are employment opportunities that previously would have been overlooked with ultimate benefits to individuals,

animal welfare, other employees, the overall business and even an entire industry."

The team members at Boehringer Ingelheim Animal Health Food Producing Business Unit are really looking forward to continuing to work alongside SunPork on this project and hopefully roll it out to other farms across Australia.



Horia Dociu from Tong Park and Zach Zaborny from Specialisterne got some on-farm experience for the Autism and Agriculture project.

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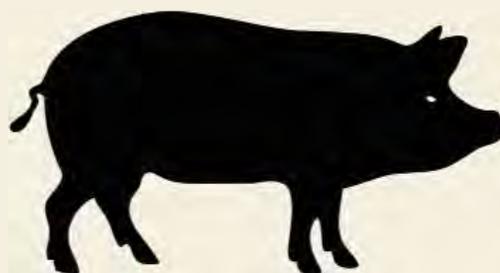
Tong Park staff attended the Autism and Agriculture information day.



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War on zika – puddle sucker solution

FLASH floods and heavy rains often result in flooded buildings, inundated basements and swamped carparks.

Left undrained, the stagnant water becomes a

breeding ground for zika and dengue-infested mosquitos with the potential for major health issues in tropical parts of Australia and South-East Asia.

Aussie Pumps offers a

lightweight, single-phase residue dewatering pump manufactured by Japanese company Tsurumi.

Nicknamed the Puddle Sucker, it is ideal for removing sheet water, dewatering concrete slabs and pools and emptying flooded manholes.

Aussie Pumps product manager Neil Bennett said the Puddle Sucker is great at clearing pooling or stagnant water.

"It's being deployed throughout SE Asia in the war on mosquitos," he said.

"These pumps are unique in their ability to suck down to the last millimetre and are extremely popular with plumbers for clearing contaminated water."

The Puddle Sucker is designed to remove water down to 1mm.

Weighing only 12kg, it is portable, easy to set up and simple to prime.

The submersible can produce flows of up to 170 litres per minute, with a head of up to 11m.

The pump uses a single-phase 0.48kW capacitor-start electric motor with a 10m heavy-duty submersible cable.

A non-return valve holds the prime and stops any water from flowing back to the drained area.

A resilient rubber base plate protects the floor from being damaged.

The motor features an inbuilt thermal motor protection against an over current or dry run conditions.

This not only cuts off the motor circuit automatically, but also resets by itself.

That means that when the motor cools down to a safe operating temperature, the motor automatically restarts.

The Tsurumi Puddle Sucker uses a semi-vortex design impeller that features a 'high-gap structure', which makes it highly resistant to abrasion, and performance is largely unaffected by minor wear.

The motor is protected by a dual inside mechanical seal located in the oil chamber, with two silicon-carbide sealing faces.

An Oil Lifter, developed exclusively by Tsurumi, acts as a lubricating device for the mechanical seal.

Utilising the centrifugal force of the shaft seal, the Oil Lifter forcibly supplies lubricating oil to the upper seal faces, even at low lubricant levels.

This amazingly simple device ensures lubrication and cooling and extends the length of time between inspections and services substantially.

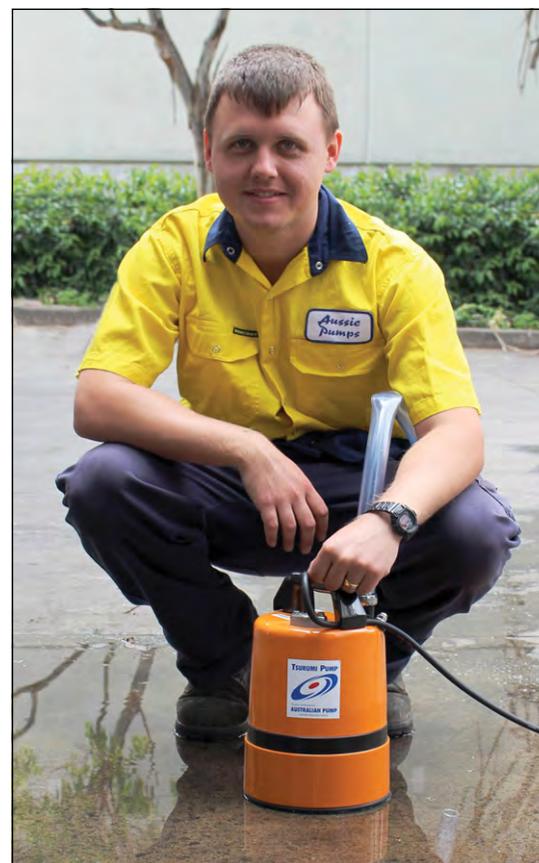
Another important Tsurumi feature is an anti-wicking block built in to the cable gland.

Even if the cable sheath is damaged, this device prevents water from wicking into the motor chamber through capillary action.

"These little champs are certainly made to go the distance," Neil said.

"They're rugged and reliable with all the quality features of the bigger Tsurumi submersibles."

Further information on the complete range of Tsurumi submersible pumps is available at aussiepumps.com.au and from Aussie Pumps distributors throughout Australia.



Aussie Pumps' Pat Grochowski demonstrated the Tsurumi Puddle Sucker clearing sheet water down to just 1mm.

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Fire at Swickers Kingaroy Bacon Factory

A FIRE broke out at the Swickers Kingaroy Bacon Factory at about 7.30am on November 6, 2016 and destroyed the export distribution centre, boning room and chillers.

The processing floor, value-add facilities, offices, new warehouse chiller and dry goods store were not affected.

The cause of the fire is still to be ascertained but it is not being treated as suspicious.

No one was injured during this event and no pigs were on site.

As a major employer in the South Burnett region of Queensland, there has been obvious concern over the consequences of the fire for the 580 staff employed at the site.

Dr Robert van Barneveld, group CEO and managing director of the SunPork Group, which owns Swickers, said, "It was crucial that we convened a meeting in the Kingaroy Town Hall the evening of the fire so all staff had the opportunity to understand the situation and ask questions."

"More than 450 staff were in attendance and we advised them that we are committed to rebuilding the site and that our intention is to maintain our current workforce."

Dr van Barneveld outlined that the plan was to have the processing floor operational within a week of the fire, ensuring all producers and processors had a destination for their pigs in the lead up to Christmas.

"We are also in discussions with other boning facilities to meet our needs until such time that our own facilities can be restored, and we will work with our staff to develop redeployment plans in these facilities for the duration," he said.

"We have been overwhelmed by the support offered by the community, government, our staff, the pork industry and related industries at this time and the efforts of the emergency services on site."

As of November 30, Dr van Barneveld confirmed the Swickers recovery was progressing well.

"Staff members are now well entrenched in a temporary boning facility in Wulkuraka near Ipswich and we are constructing a camp on site for them to reside in," he said.

"This has been approved

in record time by the State Government and local council."

Capacity at Swickers is back to 18,000 per week and new glycol chiller units have been ordered from Germany to underpin the remaining chiller capacity and will be installed as they arrive.

Dr van Barneveld said

all pigs should be able to be processed as export by mid to late January.

"Export capacity will increase as new glycol units are installed," he said.

"Demolition of the damaged site has commenced and design of the new facility is under way.

"While there has been some disruption, we hope

we have been able to minimise this given the severity of the fire and we are working hard to have the facility back to normal as soon as possible."

For further information, please contact Dr Robert van Barneveld on 0418 802 462 or robert.vanbarneveld@sunporkfarms.com.au



Photos: South Burnett Online

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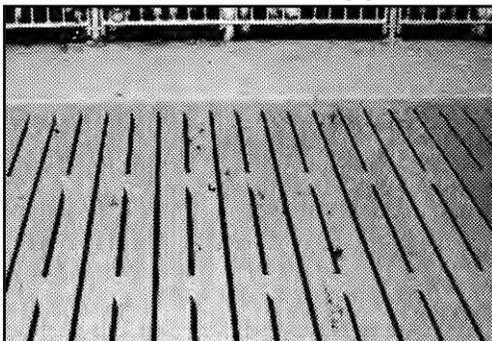
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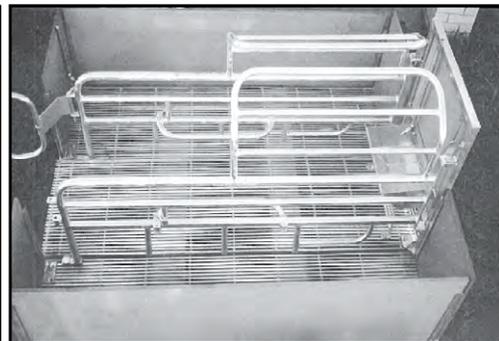
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New strategy to drive innovation in Australian and Japanese agriculture

THE National Farmers' Federation, in conjunction with the Japanese agricultural organisation JA Zenchu, has announced the two organisations will work collaboratively towards developing a partnership to foster and promote agricultural innovation.

The announcement, made at the NFF National Congress in Canberra, is part of a NFF project aimed at creating networks to link agricultural innovators in Australia and Japan and to drive knowledge, share information and fund solutions issues derived from changing demographics.

This project is funded by the Australia-Japan Foundation, a cultural council established by the Australian Government in 1976 to increase awareness and understanding between both countries and to highlight shared interests.

NFF president Brent Finlay said innovation in agriculture was a key priority of both Japan and Australia in the light of increasing demographic challenges.

"This project aims to create networks that link innovators in the Australian and Japanese agricultural sec-

tors," Mr Finlay said.

"Both Australia and Japan define themselves through their iconic rural landscapes but demographic changes must be addressed.

"For example, the average age of industry participants in both countries has been consistently rising and farmers are now, on average, more than a decade older than workers in other industries."

Mr Finlay said to mitigate this demographic trend, new farming technologies had been adopted in both Australia and Japan.

"Japan is a world leader in drone technology to distribute fertiliser and plant rice crops, while Australia has rolled out new tools to enable precision agriculture," he said.

"Innovative collaboration between the Australian and Japanese agricultural sectors could lead to outreach, engagement and education to drive future agricultural growth in both countries.

"We are delighted this project will bring together the peak representative bodies for agricultural producers in Australia and Japan."

Pork steaks increasingly attractive

IT'S been seven months since we started investing producers' money in '6-2-2 how to cook a pork steak' advertising, so what have we learnt so far?

If you want to view the initial TV advertisement, please visit pork.com.au/media/717735/htc-anthony.mp4

All advertising takes some time to impact consumer shopping habits (unless it's a new product), so it's possible there are improved results in the future.

Based on the first 25 weeks of national advertising, 20 percent of Australian households have tried the 6-2-2 cooking method and three-quarters of them are highly satisfied with the outcome.



Marketing Matters

by PETER HAYDON
General Manager Marketing



Pork appears to be becoming more attractive as a good steak (see Figure 2).

Even better is the news that on average Australians are cooking Australian pork less well done (Figure 1), which hopefully means less overcooking.

There also appears to

have been an increase in pork steak sales (Figure 3), so what Australian consumers are saying they are doing appears to be consistent with what they are actually doing.

We still have a way to go, but at least things appear to be heading in the right direction.

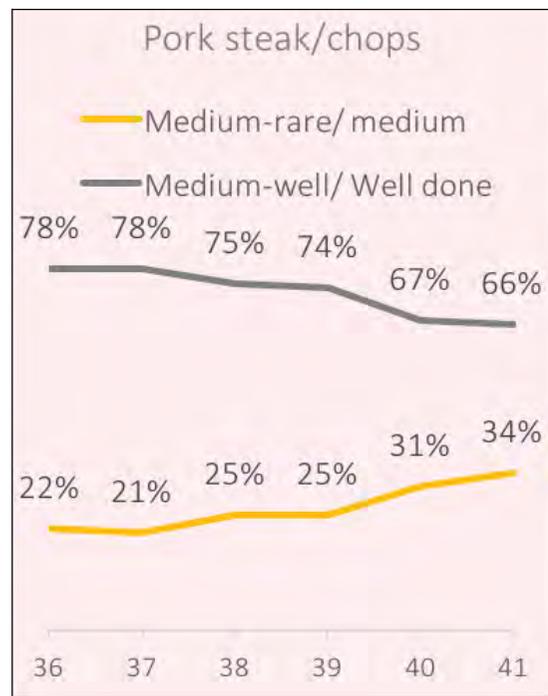


Figure 1

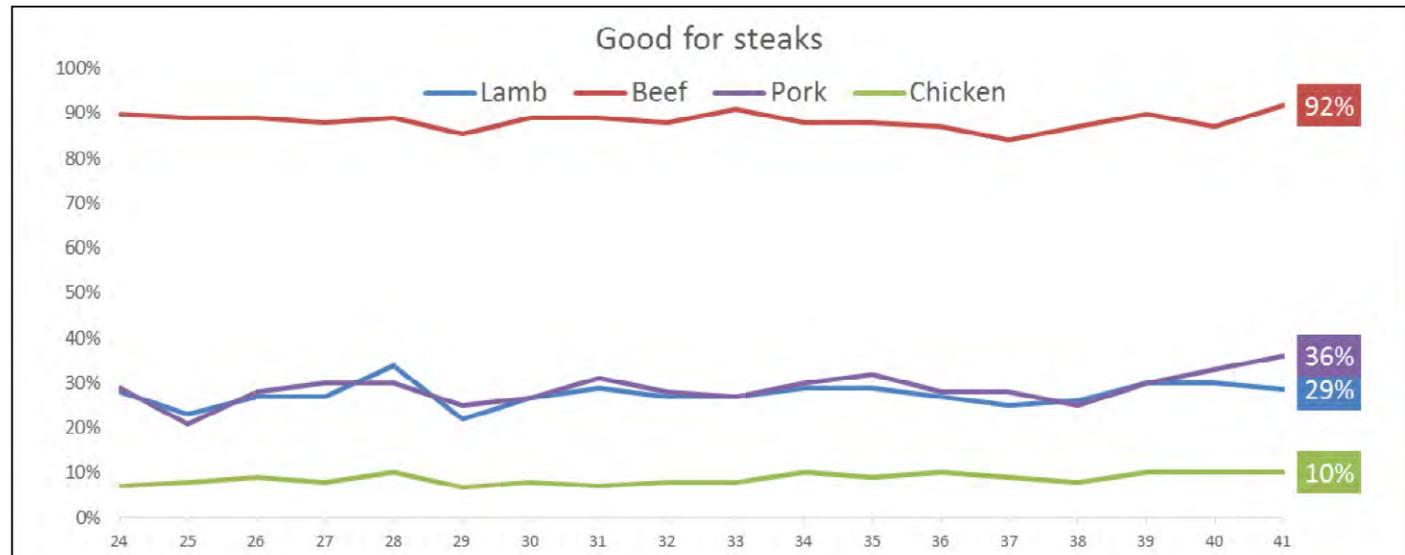


Figure 2

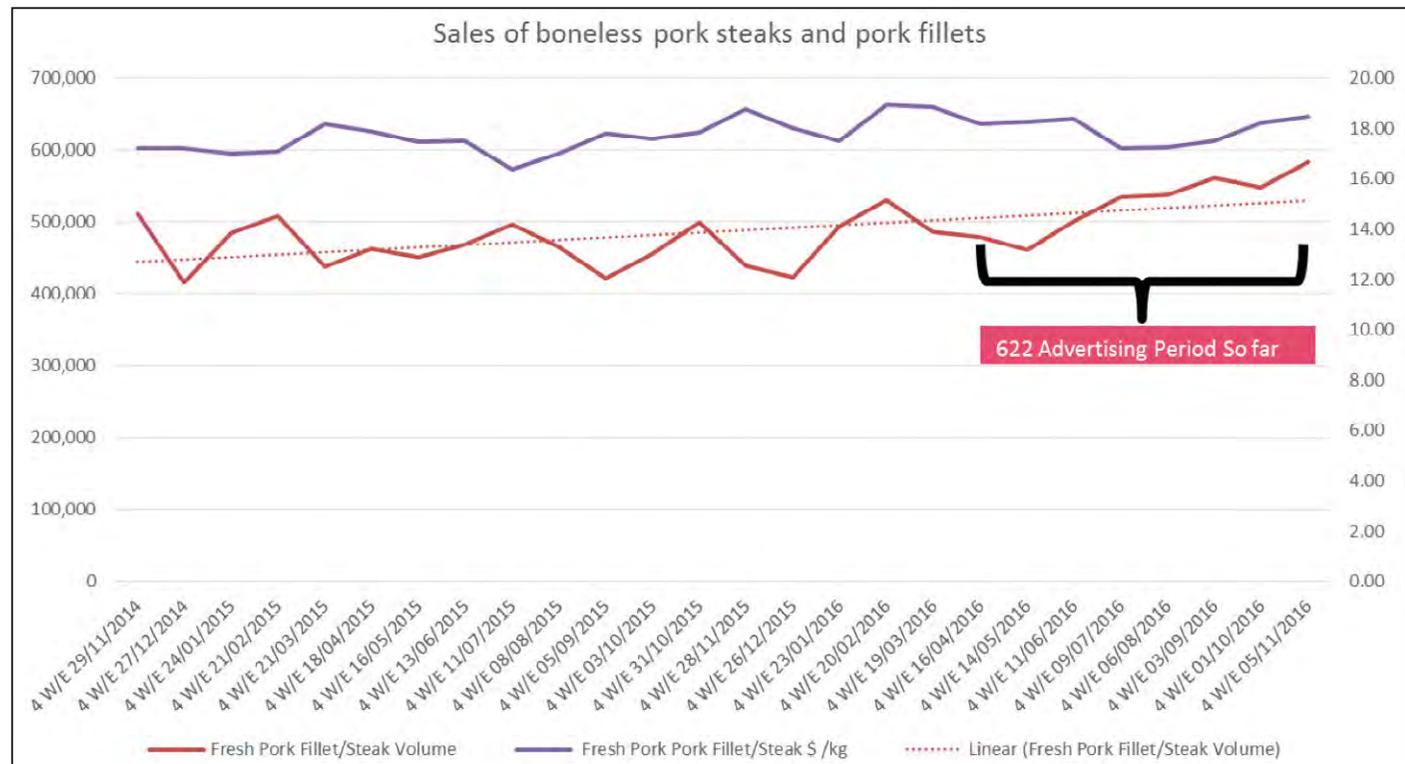


Figure 3

Research on antimicrobial resistance to benefit livestock industries

USING antimicrobial resistance surveillance data to support Australia's 'clean and green' reputation is part of a research project by a Department of Agriculture and Food, Western Australia veterinary officer.

Veterinary officer Skye Badger is currently on study leave from the department to research potential efficiencies and innovations in a future Australian AMR surveillance program.

"AMR is one of the most challenging health risks facing the world today," Dr Badger said.

"AMR occurs when bacteria, viruses, fungi or parasites stop antimicrobials such as antibiotics from working.

"Food animals are a key

element in the surveillance of AMR."

Dr Badger said Australia had an excellent reputation as a producer of safe, premium food that was recognised globally and enabled access to high-value markets.

"This reputation has been built on a national regulatory framework that controls veterinary chemicals and restricts the use of critically important antimicrobials in food-producing animals," she said.

"These restrictions are thought to have resulted in a low AMR risk status in Australia's livestock industries, which may offer a future market advantage over competitors with a higher AMR status."

Dr Badger said when a

producer is treating livestock with antibiotics, they must follow the veterinarian's instructions and observe the withholding period.

"The overuse and misuse of antibiotics can contribute to the development of resistance in bacteria," she said.

Dr Badger's PhD research at the University of Adelaide will investigate AMR surveillance from an epidemiological perspective to enhance the quality and quantity of surveillance information.

"This information will assist the Commonwealth and Western Australian governments to make effective decisions to contain and prevent resistance," she said.

Dr Badger's PhD is sup-

ported by an Australian Research Council linkage grant, with additional funding from the Australian Department of Agriculture and Water

Resources, NSW Department of Primary Industries and Zoetis and is being undertaken through the University of Adelaide.



DAFWA veterinary officer Dr Skye Badger is researching antimicrobial resistance in food animals.



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Phytases – a feeding efficiency evolution that never stops

THE use of enzymes to unlock nutrients such as phosphorus, calcium, amino acids and energy has become a well-valued tool and dietary component to improve feed efficiency and reduce feed costs in monogastric diets.

Twenty-five years ago, BASF pioneered the research behind Natuphos G, the first commercial phytase enzyme to be released into the animal feed market.

Phytases are enzymes derived from microbial activities that release the phytate-bound phosphorus in feed ingredients, improving the dietary phosphorous availability to the animal's digestive system.

In turn, reducing both the need for inorganic phosphorus sources and phosphorus excretion levels.



Subsequent research proved other nutrients are also made more available to the animal as a result of a phytase action, which revolutionised feed formulation.

Animal feeding challenges never stop evolving, with widening sources of feed ingredients, animal genetics, marketing requirements, welfare, feed manufacturing technology and environmental regulations on nutrient waste from farms.

All of which challenge

the requirements of feed efficiency and sustainability.

Enzyme engineering technology has become a powerful science to meet these challenges.

BASF has continued its research into phytases and the important role they play in animal nutrition, releasing Natuphos E in 2015.

Natuphos E is a novel and unique phytase molecule that combines the strengths of three bacterium into a new hybrid 6-phytase.

This enzyme molecule has the ability to resist pepsin in the stomach and high pH conditions, ensuring the release of important nutrients to the animal.

It tolerates high pelleting temperatures and has proven to have superior shelf life and stability in premixes and finished feeds to ensure the claimed nutrient release by Natuphos E is realised in the animal, all of which are important on the global feed market.

Animal trials occur continuously in pigs and poultry across the world to evaluate and validate the improved efficiency of this enzyme and the nutrient values which nutritionists can use to benefit feed formulation and animal production performance.

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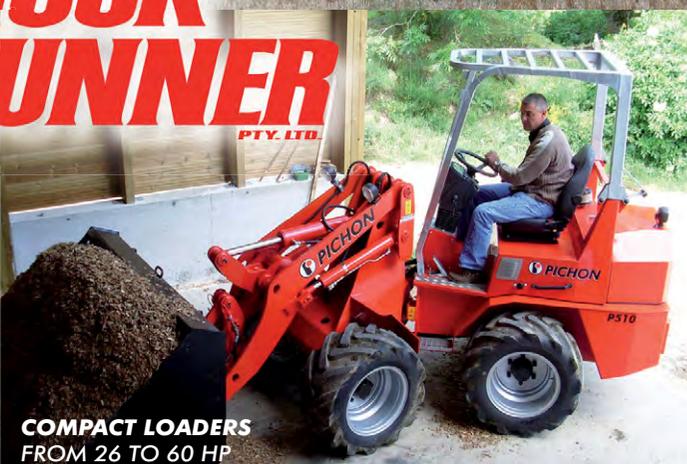
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Nu-Tek enjoys record sales

ON the back of amazing support throughout the agricultural sector, Nu-Tek Insulated Panels has recorded its strongest year ever, with record sales every month so far in this financial year.

Nu-Tek national sales manager Warwick Prestwood said the increase in sales has been a great reward for the care and attention Nu-Tek provides to various industry sectors but, more importantly, to individual farmers.

“Our on-time deliveries, national coverage and supply of the highest-quality PIR foam panels has been instrumental in this growth,” he said.

Nu-Tek has further enhanced its range of products available to the pork industry including modular buildings that

can be leased or bought and used for a multitude of functions including offices, ablation blocks, accommodation and lunch rooms.

Everything is manufactured on site in South Australia and can include bathrooms, kitchens, air-conditioning, hot-water services and any number of partitioned rooms.

These can be produced flat packed or as a completed unit ready for delivery and simple installation.

Nu-Tek can help design and build new units specific to your needs and also has a range of pre-owned units available.

For inquiries regarding these units or Nu-Tek PIR panels, please contact Warwick directly on 0488 544 102.

Trade, labour big issues for agriculture in Trump presidency

THE election of Republican candidate Donald Trump as the 45th President of the US could have long-term implications on labour and trade in the food and agriculture sector, according to a report from the Rabobank Food & Agribusiness Research and Advisory group.

Head of Rabobank FAR North America Pablo Sherwell said, “Republican-controlled Executive and Legislative branches could mean swift action when the new administration takes office.”

“Our analysts and others around the world are keeping a close eye on trade, labour, the upcoming Farm Bill and regulations impacting production agriculture, as these areas are where potential policy changes could have longer-term implications on the industry as a whole.”

While President-elect Trump's policies are yet to be clearly defined, his statements during the campaign suggest drastic changes from current policy could be on the horizon.

Short-term implications
The lack of market information creates uncertainty, and uncertainty generates market volatility.

This was seen first-hand during November, when an initial uncertainty over President-elect Trump's policy direction resulted in a short-term sell-off reaction by markets.

“Currently, the export share of US agricultural production represents more than 20 percent in volume and value terms, making US price formation highly

dependent on foreign trade and therefore foreign currency,” Sherwell said.

Longer-term implications

Trade agreements, agricultural policy and labour will act as key areas where potential policy changes could have longer-term implications on the industry as a whole.

Trade agreements

As the number-one global agricultural exporter, the US's agriculture sector is one of the main drivers of global agriculture and trade, reaching nearly \$US125 billion in 2016.

Currently, the US exports commodities that complement the rest of the world's food supply.

Any change to US agricultural trade agreements will not only affect global prices and trade dynamics but also US farmer margins.

Farm Bill 2018

The current Farm Bill is scheduled to be renewed by 2018.

Regulatory reductions have been a policy direction advocated by President-elect Trump during his candidacy, and it is likely that the direction will shift even more towards an environment of reduced regulation.

Labour

The US food and agriculture industry is highly dependent on migrant labour, particularly in sectors such as produce, animal protein and food service operation.

If immigration laws are enforced more strictly, business owners may face labour shortages, which would pressure their margins.

www.porknews.com.au

2016 Pork CRC stakeholders' meeting and AGM

A VERY positive picture was painted for the Cooperative Research Centre for High Integrity Australian Pork at its recent 2016 annual general meeting and stakeholders' meeting in Melbourne.

Pork CRC completed its fifth year of an eight-year agreement with the Federal Government and participants on June 30, 2016.

Chairman Dennis Mutton and CEO Roger Campbell agreed that 2015/16 had been a year of considerable achievement, with significant outcomes across Pork CRC's four programs and positive plans and projects in place as it transitions towards 2019/20 and the start-up of Australasian Pork Research Institute Ltd.

Mr Mutton said Pork CRC's four program areas, which centred on sow and piglet management, herd health, growing consumption of pork and delivering through a carbon-conscious industry, had continued to generate innovative solutions that delivered sustainability and profitability to Australia's pork industry from producer to public.

"The calibre of Pork CRC's program research partners continues to be outstanding and, in particular, I acknowledge the support of our participants, a number of whom have continued to show their commitment to the cause of quality R&D by signing up as foundation members of APRIL," Mr Mutton said.

Dr Campbell said in the past year, participants

and researchers had made further progress in understanding and enhancing sow and piglet welfare.

"With almost 80 percent of Australian producers now having transitioned to group housing of gestating sows, sow confinement has been reduced by about 80 percent," he said.

"We should all be proud of this achievement, which has contributed to the term 'high-integrity Australian pork' becoming a marketable reality and differentiation of our product continuing to be reflected in improved demand and price.

"While margins in 2015/16 were above the previous year and higher than for most other global pork industries, Pork CRC will continue to further differentiate Australian pork and ensure the

industry remains profitable and sustainable.

"Pork CRC research has improved the eating quality of Australian pork, demonstrated how effluent can be successfully converted into useable biogas, shown how grains and other ingredients can be more efficiently used through processing and near-infrared spectroscopy technologies and given industry tools to better understand and control common diseases.

"I am particularly pleased to report that our R&D program has more than been matched by our education and training program, which has markedly increased the capacity and capability of the industry and will certainly help secure its future."

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Pork CRC 2015-2016 Annual Report front cover.



Pork CRC CEO Roger Campbell welcomed guests to Pork CRC's 2016 stakeholders' meeting and AGM at ParkRoyal Hotel, Melbourne Airport.



New Zealand Pork chairman Ian Carter, NZ Pork general manager Sonya Matthews and NZ Pork technical manager Ian Barugh.



Pork CRC director Kenton Shaw of Rivalea Australia, pork producer Andree Rowntree of Windridge Farms, Young, NSW and Pork CRC chairman Dennis Mutton.



Pork CRC PhD candidate Lechelle van Breda of University of Sydney, Dennis Mutton, Pork CRC IPP Alice Weaver of Myora Farm, SA and Tanya Nowland of SARDI.



Pork CRC chairman Dennis Mutton reflected on an excellent year during presentations at Pork CRC's 2016 stakeholders' meeting in Melbourne on November 23.



Pork CRC Program 4 leader Stephan Tait and Pork CRC PhD candidate Megan Hawley of Flinders University, SA.



Tom Cowper of Zoetis, Pork CRC manager, Commercialisation and Research Impact, Charles Rikard-Bell and Andree Rowntree.



Pat Mitchell of APL, Dennis Mutton, former Pork CRC Program 1 leader Ray King and Rohan Wundke of Lienert, Roseworthy, SA.



Pork CRC Subprogram 2B leader Susanne Hermes of AGBU, University of New England, NSW and Avril Grieve of Elanco.



Pork CRC Subprogram 4A leader Navid Moheimani of Murdoch University and Stephan Tait.



Robyn Terry of APL, Charles Rikard-Bell and Alice Weaver.

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