Australian Pork NEWSPAPER

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Planning permit needed to operate an outdoor piggery

UNLESS you only have a few pigs, most councils across Australia will require a planning permit to operate a free range or outdoor bred farm.

Most outdoor operators view themselves as extensive and believe they do not require a planning permit or development approval.

However, outdoor piggeries are classified as intensive under state planning requirements.

This classification is on the basis of either feed requirements, that is, most or substantially (greater than 50 percent feed) is imported (land carrying capacity) (NSW, Tasmania and Victoria), rearing of pigs for production (Western Australia) and enclosures requiring the provision of food and water (Queensland).

Therefore, the definition of intensive is not based on production type but the land carrying capacity, provision of food or rearing for commercial production.

It is not based on housing or management.

Outdoor piggeries are currently experiencing a surge in retrospective planning permits.

Retrospective permits are obtained when a piggery has established either without the proper planning consent or incorrect advice given initially regarding permit requirements, creating a need to apply for approval to operate.

A well-designed, sited and managed outdoor system should have little trouble obtaining a planning permit.

Councils are generally accommodating of new retrospective applications and are willing to

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co-operate with applicants provided they are operating to best practice.

However, if a piggery is in a poor location, such as near neighbours or in the wrong zone, or has too many animals on the land (impacting on nutrient balance), the application process has the potential to be emotive and tricky.

There is potential for piggeries to be given infringement or enforcement notices, often relating to the removal of stock if it is not sited, designed or managed well.

Contrary to popular belief, outdoor piggeries do have the potential for significant environmental damage if not located, designed and managed appropriately.

The main impact is not visible to the naked eye.

There is generally little impact of odour, dust and noise if located appropriately, but the distinct dunging habits of pigs lead them to dung only between their shelter, feeders and wallows.

This leads to nutrient hot spots.

These nutrients can build up rapidly and cause a number of soil and nutrient loss issues.

Industry expectation and best practice is to regularly move structures and rotate pigs into new areas.

These paddocks are then cropped to remove nutrients from the area.

The area, number of pigs and rotations can all be calculated from nutrient mass balances and soil tests.

Australian Pork Limited has some very helpful information to assist producers and decision makers in the planning process.

This information can also be given to the community to demonstrate our risks and how we mitigate them.

APL's National Environmental Guidelines for Rotational Outdoor Piggeries 2013 (includes planning checklist), Outdoor Production Electronic Management Plan templates, electronic nutrient balance calculators, Piggery Manure and Effluent Management and Reuse Guidelines 2015 and associated glove box guide 2015 and Outdoor fact sheets (including nutrient management plan) are examples of some of the available information.

Councils and state agencies may have different regulations, so it is best to consult early to find out what your requirements may be.

APL can provide advice on planning requirements (both new and retrospective) and direct you to information that may assist with your applications.

We advise that you get in touch with us early in the planning process.

Once a process has begun, with information exchanged and heels dug in, it can be very difficult to recover or avoid a protracted process.

For planning information, please contact Janine Price on 02 6270 8827 or email janine.price@australianpork.com.au

Positive porcine signs for industry

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Point of View

by ANDREW SPENCER CEO

A FEW signs have indicated the lot of the pork industry is on the way up.

I thought this might be worth pointing out with a few statistics and facts.

First, slaughter numbers to the end of May 2015 are the highest they have been on a moving annual total basis since the end of the pork industry profitability crisis of 2007/08.

As shown in Figure 1, this figure is now 4.9 million and has increased quite markedly in the past couple of months.

Interestingly, industry surveys are not showing large increases in sow numbers, which might have been assumed to be the reason for such an increase.

It seems productivity is playing a role, both from the point of view of better management of gestation stall free situations (70 percent of pregnant sows are now spending at least 90 percent of their pregnancy loose housed) and improvements in born alive numbers helped along with progress in genetics.

At the same time, imports have shown a strong trend of increasing over the past few months, as shown in Figure 2.

Moving annual total import volumes were about 160,000 tonnes to the end of April 2015, which is about as high as this number has ever been.

While Australian pork exports have been increasing for the past year or more, they have actually come back slightly in the past six months in volume terms to the point where we are behind where we were this time last year.

So, high production, high imports and lower exports – shouldn't we be swimming in an oversupply of pork?

If pork volume demand and price were constant, that assumption would be correct.

However we have some strong evidence that volume demand and price are not constant, and that's great news for pork producers.

Our evidence shows that in the past year the average Australian has increased annual consumption of fresh pork by more than half a kilogram.

For a country of more than 23 million people, you can do the maths as to what that means in volumes of Australian pork.

When total per capita annual consumption is between 9kg and 10kg of fresh pork, half a kilogram in one year is a huge jump.

So what could have brought this on?

Consumers respond strongly to price shifts.

While the price of pigs on farm has moved positively upwards over the past year, that's not always reflected in retail on the shelf prices, though we have little evidence that these prices have gone down.

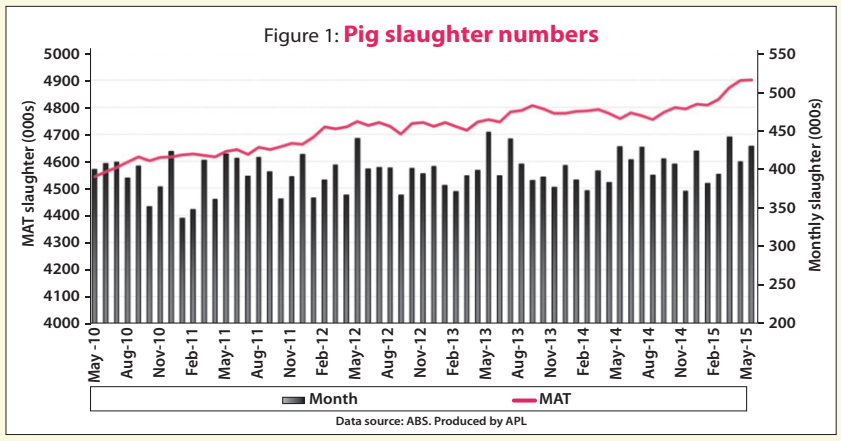
What might have gone down is relative price for pork compared to key competitors such as beef and lamb.

These industries are in a breeder renewal phase, which limits their production, and they also have strong export demand at the same time.

But the overall picture for pork presently is a good one – strong demand despite strong volume growth and good prices.

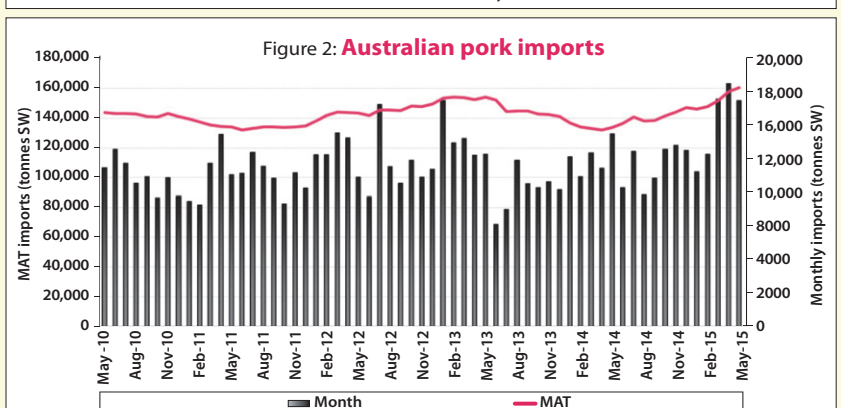
The challenge will be keeping these dynamics heading in this direction for as long as possible.

Figure 1: **Pig slaughter numbers**



Data source: ABS. Produced by APL

Figure 2: **Australian pork imports**



Data source: ABS. Produced by APL

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Pig Industry Calendar of Events

2015

AUG 9 - 12 – International Conference on Boar Semen Preservation, Illinois, US www.boarsemen2015.com

SEP 1 – Pork Queensland Inc. Annual General Meeting, Toowoomba, QLD E: robyn.boundy@bigpond.com

SEP 15 - 18 – Space 2015, Rennes, France www.space.fr

SEP 21 - 23 – Livestock Asia, Kuala Lumpur, Malaysia www.livestockasia.com

SEP 28 - OCT 18 – International Symposium of Animal Mortality Management, Pennsylvania, USA www.animalmortmgmt.org

OCT 11 - 13 – Leman China Swine Conference, Nanjing International Exhibition Center, Nanjing, China www.cvm.umn.edu/lemanchina

NOV 22 - 25 – Australasian Pig Science Association conference, Melbourne, VIC www.apsa.asn.au

2016

JAN 20-22 – Banff Pork Seminar, Banff, Alberta Canada www.banffpork.ca

JAN 26-28 – International Production & Processing Expo, Georgia, USA www.ippexpo.com

JAN 27 – Centralia Swine Research Update, Ontario, Canada www.centraliaswineresearch.ca

FEB 16 - 18 – VIV MEA, Abu Dhabi, UAE www.vivmea.nl

MAR 13 - 15 – VIV Asia, Bangkok, Thailand www.vivasia.nl

APR 18 - 20 – Global Feed & Food Congress, Antalya, Turkey www.ifif.org

MAY 10 - 11 – British Pig & Poultry Fair, Stoneleigh Park, Warwickshire UK www.pigandpoultry.org.uk

MAY 25 - 26 – Pan Pacific Pork Expo, Gold Coast Convention and Exhibition Centre, QLD P: APL 02 6285 2200

JUN 7 - 10 – International Pig Veterinary Society/European Symposium of Porcine Health Management, Dublin, Ireland www.ipvs2016.com

SEP 6 - 8 – VIV China, Beijing, China www.vivchina.nl

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

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

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APL R&D outcomes: The year that was 2014/15

AUSTRALIAN Pork

by **DARRYL D'SOUZA PhD**
Research and Innovation General Manager

ANOTHER financial year has gone and for us at Research & Innovation, we have almost finalised our research and development projects for 2015/16, with all proposals submitted, reviewed and evaluations being collated for sign-off.

The new 2015/16 R&D year is shaping up to include a few changes to the R&D process with consolidation of Specialist Groups from six to four groups (I will outline this in the next issue).

One of the areas we will focus on in 2015/16 is taking a bolder step to generate more transformational projects.

Like all transformational ideas, these are not easy to generate, so a series of workshops are being undertaken from July to November, 2015.

These workshops involve the collation of ideas from Australian Pork Limited, industry, value chain partners, futurists and so on.

A list of transformational ideas will then be collated for Board discussion and selection at the February 2016 meeting.

But more on that later.

I will provide you with an overview of APL R&D outcomes from the various programs completed in 2014/15.

Production

Investigations into fertility and litter size in the Australian commercial pig breeding industry discovered that only five mitochondrial DNA haplotypes can be identified; an outcome of Australia's closed herd.

Two haplotypes proved to produce significantly larger litter sizes (greater than or equal to 15 piglets per litter) across generations.

Further investigations are now being conducted to determine other production traits of these sows.

Promising results were found from testing plasma anti-mullerian hormone at weaning to determine the potential reproductive capacity of replacement gilts.

Gilts born in large litters with high AMH had an increased capacity to reach puberty at a younger age and therefore this represents a viable strategy to increase herd productivity by only selecting gilts at weaning with high-plasma AMH.

Optimising the dietary concentration of available lysine is fundamental to achieving maximum growth of the finisher pig.

Lysine titration studies have now concluded and reaffirmed the need to increase optimal lysine requirements of grower finishers to 0.61-0.64g of available lysine/megajoule of digestible energy.

The use of porcine somatotropin to increase protein deposition and decrease fat accretion in pigs is well known.

The development of a single-shot, slow-release delivery of pST through an injectable polymer depot has been successfully developed, with investigations now commencing in pigs.

Lower weaning weights result in slower rate of gain, increasing delays in achieving sale weight when compared to their heavier counterparts at weaning.

Investigations to enhance the performance of lightweight weaners with nutritional interventions were not successful and demonstrated that a compromised weaner will remain a compromised grower and finisher pig.

As I have mentioned previously, one area requiring a rethink has been the productivity RD&E focus.

Much of the focus in the area of growth and development and reproductive performance has been to effectively transition this program from the Pork CRC to APL.

As a consequence, the past three years has seen the program 'filling in the gaps' and therefore many of the outcomes have been very much on the 'incremental' impact side of things.

Going forward, the productivity research focus will be concentrated on two key areas: (i) optimising gilt progeny; and (ii) producing more female pigs per litter while improving litter size.

The higher production of gilt progeny inherently worsens whole herd feed efficiency.

A large collaborative project is now under way to optimise the performance of gilt progeny, and this area of R&D will be our main reproductive performance R&D focus over the next three years.

The 'more females' transformational project will seek to develop novel approaches to effectively and economically generate all-female litters.

It also alleviates and/or circumvents welfare issues arising by existing methods to reduce the number of boars in a litter.

The approach proposed would result in the production of boars that only produce daughters, without altering current piggery management practices.

This project has just commenced and hopes to have the proof of concept milestone established within the next 12 months.

Traceability and product integrity

Physi-Trace uses trace elemental profiles, chemical and organic markers to distinguish between pork samples based on region of origin.

The integration of Physi-Trace with APIQ✓ and PigPass supports traceability and provenance claims of Australian pork to be verified through the Trust in Australian Pork Quality program.

Revised sampling and analytical plans have been implemented to deliver Physi-Trace to industry at a cost of $0.05/pig.

These plans require the sampling and storage of 0.5-1.5 percent of annual slaughter by each establishment and 5 percent of these samples are randomly selected on a monthly basis for Physi-Trace analysis to build the database for raw pork.

Physi-Trace is also being used to differentiate between ham and bacon made from Australian or imported pork, supported by the Physi-Trace ham and bacon database.

One of the issues identified is the ability to process traceability samples in overseas laboratories given we cannot bring fresh pork samples back due to our import protocols.

This is particularly the case in our largest export market and we are working with the Singapore Agri-Food and Veterinary Authority to establish this technical capability so we are able to use Physi-Trace in both our domestic and export markets.

Animal welfare

The redevelopment of ProHand Pigs, on-farm welfare activities regarding pain relief and alleviation of responses to adverse stimuli, euthanasia on farm, standards for CO2 stunning at abattoirs and defining and establishing whether enrichment is necessary for pig welfare is being addressed in this priority area.

Pain relief activities focused on the investigation of pain relief during husbandry procedures.

On-farm welfare activities including welfare assessment and stockperson benchmarking were investigated.

An 'On-Farm Welfare Assessment Panel' made up of key producers and APL was established to define the elements of an on-farm welfare assessment plan and present any recommendations to producer groups and industry.

These outcomes were used to support industry's defence following a range of 'attacks' by animal liberation organisations and media, farm raid preparedness, differentiate Australian pork from imports and support the industry's gestation stall free definition.

Biosecurity

Risks associated with, and mitigation strategies for, a range of exotic diseases including foot and mouth disease, porcine reproductive and respiratory syndrome, African swine fever and porcine epidemic diarrhoea virus were investigated.

Outcomes arising from this program were provided to the Strategic Biosecurity Review Panel to support industry's biosecurity endeavours and priorities.

Risk assessment outcomes were instrumental in supporting Australia's position as postweaning multisystemic wasting syndrome-free (despite other countries wanting to change this on the basis of having porcine circovirus disease) and new Australian import risk data for PRRS was obtained.

PEDv was classified as Category 4 under the Emergency Animal Disease Response Agreement, with this position strongly supported by data obtained from PEDv risk modelling.

Rigorous and quantifiable information regarding exotic disease impacts has also been provided to jurisdictions.

Feral pig populations have been included in modelling of PRRS incursions in Australia to determine economic and non-tangible impacts associated with PRRS.

The Swill Feeding Compliance and Awareness Project is ensuring consistency across states regarding the approach to swill feeding awareness, compliance and enforcement, consequently reducing the likelihood of introducing emergency animal diseases through the feeding of swill to pigs.

Food safety

Opportunities to continue reforms in the Pork Australian Export Meat Inspection System and demonstrate a proactive industry approach to managing market access and commercial risks are the focus of APL's food safety program.

In May 2015, acceptance was gained from the Department of Agriculture for Porcine Ante Mortem Inspectors with a Certificate III in Meat Processing (General, Livestock Handling or Meat Safety) within Pork AEMIS.

This will enable all export pork establishments to operate under Pork AEMIS once transitions are completed.

All export pork establishments are involved in the Abattoir Process Control project, which aims to establish valid monitoring arrangements to verify hygiene performance in both the abattoir and boning room of individual abattoirs.

Toxoplasmosis, a parasitic disease caused by toxoplasma gondii, is second only to salmonellosis as a leading cause of pork-associated foodborne disease.

Capability developed at the South Australian Research and Development Institute was used to undertake a pilot study to determine the prevalence of toxoplasma gondii in sow hearts sourced from three export establishments.

The mitigation of risks to public health posed by salmonella typhimurium from pork is being addressed in two APL-funded PhD projects being conducted through SARDI in collaboration with the University of Melbourne and the University of Tasmania.

A stochastic model has been constructed that estimates the risk of salmonellosis from the consumption of moisture-infused pork products by modelling the transfer of heat into pork steaks to estimate the proportion of salmonella remaining after cooking.

A predictive model for the inactivation of salmonella in pork burgers has also been developed and details the influence of fat content of minced pork, degree of doneness and salmonella serovar on the inactivation of salmonella.

Quality assurance

APIQ✓ certification continues to cover more than 90 percent of Australian sows in production, reaching a high of 91.8 percent in September 2014.

Annual compliance audits verified that about 70 percent of producers have voluntarily moved to gestation stall free systems and that 11 percent of sows are certified outdoors as free range or outdoor bred.

APIQ✓ management continues to administer the day to day operations of APIQ✓ certification and manages projects to allow APL to ensure that APIQ✓ continues to be a quality program assisting producers to meet and maintain world's best practice on farm, follow principles of HACCP and ensuring compliance with local regulations.

Three projects were conducted: the 2014/15 Major Review of APIQ✓; the Third Party Evaluation – Outsourcing Management and Administration of APIQ✓; and the development of electronic audit reporting.

All projects were successfully completed.

The APIQ✓ Major Review included consultation with all stakeholders in all pig producing states and resulted in APIQ✓ Standards and Certification Policies, Version 4.0 7/2015.

The new Standards and Certification Polices took effect on July 1, 2015.

The program format was revised to include modules for Traceability, Environment and Transport, with some existing standards and performance indicators moved and others added as agreed through the consultation process and approved by the APL Board.

The new Standards Manual along with a table of amendments will be made available to all stakeholders through the APIQ✓ website at www.apiq.com.au

The development of an electronic audit reporting tool was highlighted as necessary to drive continuous improvement in APIQ✓ reporting and certification management.

It was recommended in each System Verification Audit, the Major Review and the Third Party Evaluation project.

Following APL Board approval, it was created in 2014/15 using the Muddy Boots, Greenlight Assessments tool launched on Ju-

☛ continued P3

Testing time for pig pathogens

Pork CRC Initiatives

by **DR ROGER CAMPBELL**
CEO

ONE thing that's become clear from Pork CRC research in the herd health management area is plenty of work remains to be done monitoring changes in the incidence, virulence and resistance of common pathogens over time and in developing appropriate diagnostic tests.

In this issue I've highlighted some positive outcomes from Pork CRC Program 2 'Herd health management'.

Herd health and how best to manage affects all pork producers to varying degrees and with different challenges.

Pork CRC researchers working on pleuropneumonia and other respiratory diseases and enteric pathogens such as *E. coli*, lawsonia and brachyspira have addressed these matters more recently and it will be important, given the global emphasis on antimicrobial use and resistance, that this work continues and is supported by Federal and State governments.

It is a major issue and our industry has the opportunity and potential to further differentiate itself from global and national competitors.

I have therefore provided updates on projects investigating swine dysentery and ileitis.

Swine dysentery

The old 'enemy' of swine dysentery is still around, but in different forms and it's changing in virulence and antimicrobial resistance.

SD has been inherent in the Australian pork industry for as long as I've been involved (and that's a long time!) but has received little research attention in the past decade.

This changed recently with the release of the final report on a survey across Australia by Prof David Hampson and Dr Tom La and colleagues from Murdoch University.

They conducted the work for Pork CRC (Project 2A-111) to see if two recently identified pathogenic strains of brachyspira, namely brachyspira hampsoni and brachyspira suanatina, might be present in Australian herds.

Both strains have been identified recently in the US and Europe.

News breaks

The good news is neither was identified in the survey and they are unlikely to be in the Australian herd.

The bad news is brachyspira hyodysenteriae was widespread, being identified in 27 (30.3 percent) of the tested herds, including six herds that showed no signs of disease and five herds with mild signs of disease not attributed to SD.

☛ continued P4

While the old 'enemy' of swine dysentery is still around, it's in different forms and is changing in virulence and antimicrobial resistance. Prof David Hampson of Murdoch University, with Pork CRC support, is making some breakthrough discoveries.

APL R&D outcomes: The year that was 2014/15

☛ from P2

ly 1, 2015 at the same time as the revised standards.

It will be used by auditors as the only option for reporting audits and once proven and refined will be made available to producers for use in conducting their internal audits.

Environment

This area of focus recognises the environmental risks, challenges and opportunities faced by the Australian pork industry.

It identifies research and extension priorities that assist in reducing risk, reducing costs and increasing revenue while positioning the industry as environmentally sustainable.

Much of our environment focus has been in the following areas: (i) New & Emerging Technologies; (ii) Innovation & Uptake of Best Management Practices; (iii) Validation of Industry Environmental Data; and (iv) On-Farm GHG Mitigation.

Outcomes include the Piggery Manure and Effluent Management and Reuse Guidelines (2015) and associated 'glove box' guide to allow producers to quantify manure nutrients for reuse as well as provide a method to place value on the nutrients.

The guidelines highlight an economic advantage of about $156/ha by applying five tonnes/ha of spent bedding compared to equivalent rates of conventional fertilisers.

Complementing the Manure Guidelines is the electronic Environmental Management Plan template and nutrient balance calculators for conventional and outdoor piggeries.

The EMP was developed for producers to assist with day to day environmental management, demonstrate best practice to regulators and assist decision makers when developing or expanding a piggery.

The nutrient balance calculators help improve producer understanding of nutrient quantities and assist operators to sustainably reuse manure and effluent from conventional, deep litter piggeries and manage paddock rotations for outdoor piggeries.

A series of six BMP booklets was produced based on the latest science and understandings (refer to article on Page 10 for more details).

APL biogas projects, together with the Pork CRC bioenergy program, have assisted with 26 percent of available production or 11 percent total production capturing or utilising biogas.

Currently there are 18 systems across Australia, with four of these systems participating in the Carbon Farming Initiative, generating $2 million in CFI credits and abating over 101,000 tonnes of CO2.

Four sites have been successful in the new Emissions Reduction Fund scheme contracting 0.3 million tonnes of CO2 abatement worth $4.3 million in credits.

The National Agricultural Manure Management Program funded by research and development corporations, the Commonwealth Government and co-ordinated by APL, achieved significant outcomes, adding to the basic understanding and quantification of GHG emissions from livestock manure management and land application practices.

Results for the pork industry showed that sorbers can decrease GHG (N2O and NH3) emissions by up to 60 percent, and potentially reduce the need for conventional fertilisers.

These sorbers can potentially improve agronomics (20 percent) and boost carbon retention in the soil by about 50 percent.

Compared to commonly used uncovered effluent ponds, conversion to short hydraulic retention time systems (holding effluent for up to 30 days in a pond or tank), a deep litter system or deep litter and stockpiling can reduce GHG emissions by 87 percent, 85 percent and 65 percent respectively.

Lower application rates of manure have the potential for 60 percent GHG reductions and, irrespective of the source of manure, there was a trend towards higher grain yields in plots receiving manure.

Dry seeding shows the potential percent reduction in GHG emissions.

Composting and pelletising, rather than stockpiling, showed a potential of up to 70 and 80 percent GHG reductions respectively.

Technology adoption and industry capability

The development of the R&I 'app' is well under way and it is due to be released in September 2015.

It is designed to quickly disseminate key APL research outcomes, best management practice information and coming events to all levels of industry.

The app will also be a key to gaining industry feedback on adoption levels and rates of APL R&D information and help APL to further target information.

A number of producer case study videos have been made and will be available later in 2015.

These short videos aim to encourage other producers who may be considering adopting new technologies and will be distributed via the APL website and app.

The Wean to Sale Manual has been reviewed and updated and will be available to industry in late 2015.

APL has continued to campaign and develop the Australian Pork Industry Education Toolkit (Pigs in Schools program).

A year 9 and 10 resource and a pig farm visits kit for teachers has been developed.

As a result, the APL Pigs in Schools program is now available for teachers from kindergarten to year 10 and over 400 resources have so far been distributed to teachers.

These resources have been very well received by teachers, industry and government departments.

APL sponsored Rhys Collins of SunPork Fresh Foods, Queensland in Course 22 of the Australian Rural Leadership Program.

Mr Collins is due to graduate from the two-year course in September 2016.

The ARLP aims to produce a network of informed, capable and ethical leaders who are able to work collaboratively to advance the interests of their industries, businesses and communities and it is one of APL's key leadership development activities.

The 2015 Diploma of Pork Production, conducted by Cameron Hall McLean Alliance, commenced in March and is due to be completed in October 2015, with 10 participants from across Australia taking part.

CHM Alliance is being supported by APL to oversee the update, maintenance and use of the Assiniboine Diploma resources (modified for Australian use) by Registered Training Organisations nationally.

As you can see, a lot of R&D outcomes have been generated and these need to be effectively disseminated in 2015/16.

And as always, this technology transfer to enable better adoption will continue to be a major focus of the R&I team.

For further information on any of the research outcomes, please do not hesitate to contact me on 02 6270 8804 or darryl.dsouza@australianpork.com.au

Testing time for pig pathogens

Dr Alison Collins of NSW Department of Primary Industries met with producers and Pork CRC representatives at the 2013 Victorian Pig Fair where she discussed her progress in developing a quantitative PCR test for Lawsonia.

☛ from P3

A number of these 11 herds either had given apparently 'false positive' reactions in a serological enzyme-linked immunosorbent assay test for SD, or were epidemiologically linked to such herds.

One of the infected herds without disease was a breeding herd providing stock to other herds.

The finding of brachyspira hyodysenteriae in herds without disease is significant and poses problems for diagnosis and control of SD in Australia.

The other 16 infected herds had a history of SD or had relevant clinical signs.

More concerning was that antibiotic resistance has increased over time.

Resistance to four key antimicrobial agents (tiamulin, tylosin, lincomycin and olaquindox) occurred and was more common compared to Australian isolates tested in 2007.

Three multi-drug resistant isolates were also identified from different herds, representing a serious risk for future control of SD in Australia.

The level of resistance to the four antimicrobials is shown in Table 1.

Virulence test

Application of a test for virulence-associated genes showed a high agreement between lack of these genes and origin of the isolates from herds with no disease or only mild disease.

In several cases where isolates lacking the genes were found in herds with disease, other isolates that had the genes also were present and were presumed to cause the disease.

Bottom line

SD remains widespread in Australia and is continually changing in virulence and antimicrobial resistance.

The researchers concluded that brachyspira hampsoni and brachyspira suanatina, the newly described agents of swine dysentery in North America and Europe, were unlikely to be present in Australia.

On the other hand, the classical agent brachyspira hyodysenteriae is relatively common and widespread.

The currently circulating strains are generally different from those found in the past and different from strains in other countries.

Evidence was found of the likely transmission of strains between piggeries that are epidemiologically linked.

More strains showed antimicrobial resistance than in the past and of concern was the identification of three different multi-drug resistant strains.

A major finding was identification of brachyspira hyodysenteriae in farms that had no disease, or only mild disease of previously unknown aetiology.

Strains from these farms were shown to lack plasmid-associated virulence genes, which potentially may reduce their ability to colonise.

These results support the usefulness of this test, but also emphasise the need for routine testing of herds.

Full details are available on the Pork CRC website (www.porkcrc.com.au) under 'Research' –'Program 2' and then Project 2A-111.

All veterinarians have been briefed on the findings and have the report.

If you have any questions, contact your veterinarian and/or Prof Hampson at d.hampson@murdoch.edu.au or Dr La at T.La@murdoch.edu.au

Murdoch University will now investigate the pathogenicity of some of the new isolates identified in Pork CRC Project 2A-111 and refine the tests for brachyspira hyodysenteriae.

Ileitis update

Another widespread enteric disease is ileitis, and Pork CRC played a central role in developing a quantitative PCR test for lawsonia.

The test developed by Dr Alison Collins of NSW Department of Primary Industries was one of the first of its kind and is, to our knowledge, the only one verified in the laboratory and field.

The test tells you if the animal is infected with lawsonia, the number of lawsonia present and, as such, the likelihood of chronic or impending acute disease.

Alison has also established the relationship between lawsonia numbers and growth performance of pigs, and there is a point commonly reached in commercial situations where growth performance is significantly depressed by lawsonia infection load – before clinical signs are evident.

The effect of lawsonia numbers on the growth rate of pigs is shown in Figure 1.

This is from a previous Pork CRC Project (2A-109).

More recently, Alison investigated different strategies for controlling lawsonia in grower-finisher pigs and used the qPCR to monitor the effectiveness of the strategies on lawsonia numbers and change in numbers over time.

The results showed that while some treatments affected performance and health more than others, lawsonia numbers (infection rate) increased in all situations over time and in all cases reached infection loads that affected both performance and health.

Exciting predictions

The exciting thing was these situations could be predicted with the qPCR and in the real world strategic control strategies could be implemented.

There was no reason to use antibiotics throughout the whole period and points at which the strategic use of relevant antibiotics or maybe other strategies could have prevented disease and any decline in growth performance.

Indeed, the results suggested that using the qPCR, no treatment early and the strategic use of antimicrobials later in the growth cycle might be the most cost-effective strategy – but you need to know the aetiology of lawsonia infection in your herd.

The tool developed by Alison is one that should be widely adopted to minimise the impact of ileitis on animal health and performance.

Commercial break

Pork CRC is looking for expressions of interest from companies to commercialise the test.

If interested, contact Geoff Crook at geoff.crook@porkcrc.com.au or Dr Charles Rikard-Bell at c.rikardbell@porkcrc.com.au

For details on the projects, lawsonia and the qPCR assay, contact Dr Alison Collins at alison.collins@dpi.nsw.gov.au

www.porkcrc.com.au

Dr Charles Rikard-Bell, Pork CRC manager Commercialisation and Research Impact.

Geoff Crook, Pork CRC business manager/company secretary.

New Zealand to stop animal antibiotic use by 2030

NEW Zealand Veterinary Association president Dr Steve Merchant said by 2030, NZ Inc will not need antibiotics for the maintenance of animal health and wellness.

About 70 percent of human infectious diseases including meningitis, anthrax and salmonellosis (food poisoning) have come from animals.

"With sharply increasing levels of resistance to antibiotics worldwide, we want animals and, by extension, humans to enter the 'post-antibiotic' era as safely as possible," Dr Merchant said.

Dr Merchant said this is a significant undertaking, requiring considerable teamwork and commitment from the veterinary profession, working with the medical, scientific, government and relevant primary industry sectors.

He described the prize as "enormous" for NZ Inc and the world.

"Given the wide acceptance that the future for antibiotics is limited, and the close links between animals, humans and the environment we share, achieving this goal is essential," Dr Merchant said.

"NZ is well suited to this challenge; given our size, proximity of the various specialities and relevant industry sectors, and already low use of antibiotics."

Examples of this suitability include:

- Zero use of antibiotics in aquaculture;
- NZ is the world's third-lowest user of antibiotics on animals;
- Increasing focus on animal 'wellness'; and
- NZ's grass-based farm management systems.

"These represent a sound platform, and veterinarians' role at the intersection of animal life, human life and the environment makes ours a logical profession to be taking a lead," Dr Merchant said.

"Achieving this goal will require a concerted international collaborative effort involving attitudinal and behavioural change across government, research, human health professionals, pharmaceutical companies and a range of associated industries – as well as the public.

"Veterinarians will use and advocate for careful antibacterial management and monitoring based on responsible use of existing antibiotics as we work with our industry partners to jointly test and develop the necessary alternatives."

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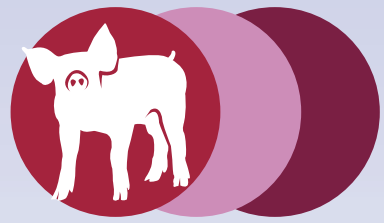

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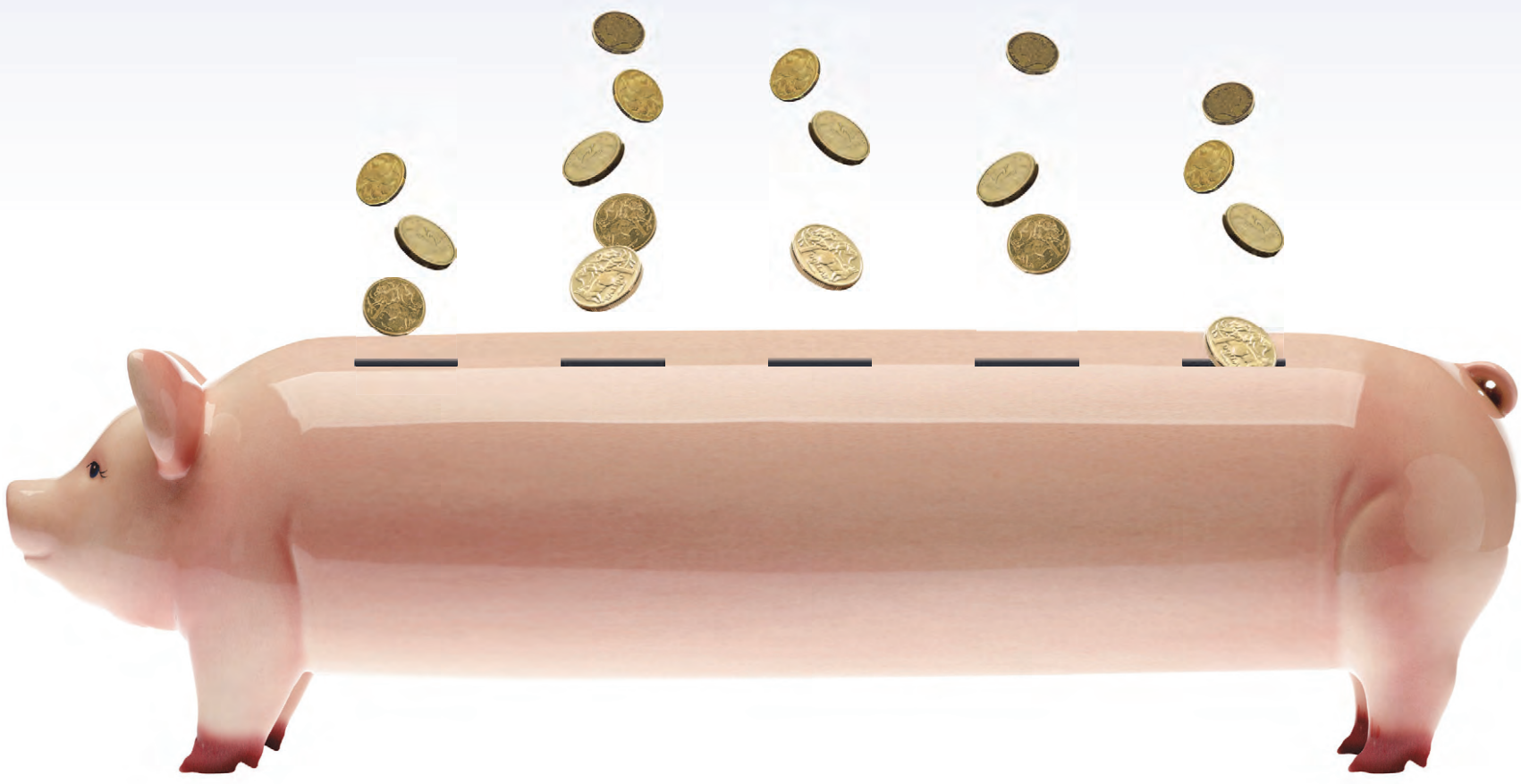

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Pork CRC sow welfare breakthroughs

Dr Ray King, leader of Pork CRC Program 1 'Reduced confinement of sows and piglets' with Melina Tensen, RSPCA.

IT'S half time for CRC for High Integrity Australian Pork, having just completed four years of its eight year term under the agreement it has with the Australian Government and the majority of its essential and other participants.

According to CEO Roger Campbell, major progress and breakthroughs in pig and pork research and development were made across all four of the CRC's programs.

"We've improved the welfare and performance of sows grouped in gestation, we're developing alternative strategies to improve animal health, disease diagnostics and pork eating quality, plus advancing biogas management and grain inputs," Dr Campbell said.

"Australia's pork industry and researchers have led the world in transitioning from stall to group housing of gestating sows, with industry showing the forethought and courage to make the move and our scientists then making it work on a welfare basis for the sow and in terms of reproductive performance for the producer."

Pork CRC scientists are now looking at satiety and enrichment for gestating sows and at the welfare and wellbeing of sows and their piglets during farrowing and lactation.

"The latter remains a challenging area, but we have the best in the world working on it and a very innovative program in place," Dr Campbell said.

According to RSPCA Australia senior scientific officer (farm animals) Melina Tensen, Pork CRC's R&D programs reflect an awareness of emerging issues and responsiveness to growing consumer expectations that may impact the industry.

"Pork CRC's research is essential to the success of alternative farrowing and group housing systems and to farmer uptake of such systems," Ms Tensen said.

"Undoubtedly, thanks to the success of the Pork CRC's group-housing workshops, many pig farmers have implemented housing and feeding systems that best suit them and close to three quarters of gestating sows are now sow stall free.

"The success of Pork CRC, in addition to the quality of the research, is attributable to the significant resources that major pig producing companies are willing to invest in order to achieve practical, on-farm improvements.

"This and the efforts of every single pig farmer who has transitioned or is still in the process of transitioning to group housing, should be highly commended.

"As Pork CRC's work moves into the next stage, RSPCA remains committed to working with the pig industry and its stakeholders on the challenging journey towards high integrity Australian pork."

Dr Campbell said in the next four years, Pork CRC would address areas across its four programs where gaps in knowledge still existed, while helping ensure Australia produces the highest quality pork in the world and that Pork CRC continues to help industry differentiate itself from the rest of the world.

www.porkcrc.com.au


Swickers senior standards inspector Damien Obst measured the eye muscle area of a carcass.

Swickers unveils huge upgrade

A MULTI-million dollar upgrade at Swickers' Kingaroy pig abattoir will have the potential to lift production at the plant to 30,000 head per week.

The upgrade, announced recently, includes a new slaughter floor, a greater chiller capacity and an expansion of the distribution area.

It will increase plant capacity by 50 percent, allowing Swickers to meet expected rises in demand for pork both in Australia and overseas.

Swickers is the only pork export facility in Queensland and the largest individual pork export facility in Australia.

CEO Ross Ingram said the substantial investment was critical to the local community as well as the Queensland pig farming industry.

"Swickers is one of the major employers in the region, with employees demonstrating a diverse range of skills," he said.

Swickers is owned by the CHM Alliance, a farmer-owned group that has invested a significant amount in the Kingaroy plant over recent years to upgrade facilities.

"As demand for Australian pork continues to grow, we feel this investment will see us ready to meet the expected increased volume demands," Mr Ingram said.

The latest expansion is also linked to the $2.2 million upgrade of the nearby Kingaroy-Barkers Creek Rd and Clark and Swendson Rd intersection detailed by the South Burnett Regional Council in its recent Budget.

The roadworks are designed to improve traffic flow around the Swickers site and handle increased traffic volume.

Currently, 65 trucks and 400 employee vehicles enter and leave Swickers every day.

Improving piglet welfare

'Split suckling of piglets to improve colostrum intake and survival'

Pork CRC

Julia Sophia Huser: Pork CRC Honours, University of Adelaide

Supervisors: Wayne Pitchford, Kate Plush, David Lines

JULIA Sophia Huser graduated from the University of Adelaide with Honours in 2014.

During her Honours year she was supported by Pork CRC's Program 1, which investigates confinement-free sow and piglet management.

Her project aimed to improve piglet welfare, more specifically by reducing mortality of smaller-sized piglets within the first 24 hours after birth.

Since completing her Honours, Julia Sophia has worked at SunPork Fresh Foods (previously known as CHM Alliance and AP-FG), where she began in late February 2015 as an animal research technical officer.

She now assists her former Honours supervisor Dr David Lines (Science, Technology and Adoption manager) on external sow based research in South Australia in collaboration with the South Australian Research and Development Institute and University of Adelaide.

Julia Sophia is also involved in many internal trials within the group's commercial herds.

She is extremely grateful for the support she received from the Pork CRC, the University of Adelaide and SunPork Fresh Foods throughout her Honours year, all of which helped kick start her career in the Australian pork industry.

CRC Honours

Julia Sophia's Honours project, which was conducted on a commercial farm (SunPork), investigated the benefits of split suckling neonatal piglets within 24 hours of birth.

Conventional split suckling is a maternity ward management technique that reduces teat competition within litters (typically of litters with greater than 11 piglets born alive) and is accomplished by separating the largest, first-born piglets from the sow for two to three hours, allowing the smaller, later-born piglets to access the udder, thereby increasing their chance of colostrum ingestion.

Colostrum is rich in antibodies and growth factors and is energy dense, making it essential for piglet survival, as piglets are born immunocompromised and with a lack of energy reserves.

Julia Sophia's Pork CRC Honours project investigated how no split suckling (control) and two different types of split suckling – conventional and rotational split suckling, where half the piglets are rotated hourly, allowing all piglets to access the udder without competition for two suckling events – impacted litter mortality and performance.

Suckling stats

The survival of small piglets (less than 0.85kg) from the conventional split suckling group was 13 percent greater than the small piglets in the rotational and control treatment groups.

However, the split suckling method had no effect on colostrum ingestion (IgG proportion measured by immunocrit from day one serum samples).

Small piglets in the conventional split suckling treatment had improved vigour from day zero to day one, which was different by half a score (zero to three scale), compared to the control or rotational treatment group.

This result indicates that split suckling improves the survival of small piglets within large litters through enhancing vigour of these piglets.

It was also found that aside from piglet birth weight, body temperature at day zero had the greatest overall effect on the survival of piglets before weaning.

For further information, contact Julia Sophia Huser by email at sophia@austporkfarms.com.au

Julia Sophia Huser

Australian Made, Australian Grown logo to be incorporated into proposed new country of origin food labels

THE Australian Made Campaign has welcomed the Government's proposed new country-of-origin labelling system for food, which will for the first time incorporate a bar chart showing what proportion of ingredients come from Australia, and will also include – for those products made and grown in Australia – the Australian Made, Australian Grown kangaroo logo.

Australian Made Campaign chief executive Ian Harrison said, "We welcome the Government's initiative to help consumers quickly and easily identify great Aussie products."

"The Australian Made Campaign contributed significant input during the development of this proposal and looks forward to working with the Government to efficiently and effectively implement the new scheme."

Mr Harrison said the iconic green-and-gold kangaroo logo had been helping farmers and manufacturers promote genuine Aussie products and produce for nearly three decades.

"The new system will help consumers make informed choices based on the 'Australianness' of products," he said.

"Independent Roy Morgan Research surveys confirm the enormous levels of recognition and trust Australians have in the Australian Made, Australian Grown logo.

"A greater number of growers and manufacturers using the logo will further strengthen its impact for the benefit of both consumers and producers."

The proposed new 'contents symbol' will be mandatory for most (but not all) food products and the roll-out will commence next year – following consultation with the states and territories – with a phased implementation period for small business.

For more information, visit industry.gov.au/industry/IndustrySectors/FoodManufacturingIndustry/Pages/Country-of-Origin-Labelling.aspx

Craig Mostyn Group leading the way in WA

'Smalltalk' was on the menu at the Agribusiness Leaders' Dinner, when smallgoods 'king' D'Orsogna managing director Brad Thomason chatted with WA Agriculture Minister Ken Baston.

Matching menus at the Agribusiness Leaders' Dinner were chefs and mates John Thompson of Linley Valley Pork and Don Hancey, WA Food Ambassador.

Cant Comment by BRENDON CANT

I COMMEND Western Australian agribusiness Craig Mostyn Group on its commitment to an annual 'Agribusiness Leaders' Dinner', which has become, for me and many others, a highlight of the somewhat sparse WA agricultural showcase event calendar.

CMG, producer of Linley Valley Pork, held its first such dinner in 2012 at Perth's Fraser's State Reception Centre in Kings Park and celebrated the company's 90th birthday the following year.

It is an event that proudly profiles WA agriculture and, in particular, what CMG has been doing, while hosting an evening of high-level networking for the 100 or so attendees who are very well fed and lubricated with fine food and equally fine wines.

This year's event boasted the presence, for the first time, of WA Premier Colin Barnett, albeit a brief break from his busy leadership commitments at nearby Parliament House.

WA Agriculture Minister Ken Baston stayed the distance, as did the likes of Department of Agriculture and Food, WA director general Rob Delane and D'Orsogna managing director Brad Thomason, to name but a few of the many high-profile guests warmly welcomed by CMG CEO David Lock at a relaxing evening MC'd by CMG executive director Andrew Mostyn.

David, in his usual low-key but message-infused style, said there were very clear opportunities for WA agriculture to value add and the state needed to increase production, but must be a low-cost producer to successfully compete on the world stage.

Fine food selected, sourced and created by high-profile chef and Fraser's owner Chris Taylor was prepared and plated to perfection.

For a starter I enjoyed Jade Tiger abalone with black garlic, lemon and coriander, and slow-cooked beef cheek, roast eye fillet and parsnips as a main.

CMG acquired Jade Tiger Abalone, based on the Bellarine Peninsula, Victoria, a year ago.

Grown only by CMG, the abalone was developed in 2006 under partnership with CSIRO.

A highly selective breeding program produces a product with a distinctive shell and meat characteristics desired by CMG's export and domestic customers.

Two of the desserts were, at least for me, irresistible – torched brulee and crepes with orange and Grand Marnier.

Guest speakers were Royal Flying Doctor Service (WA) CEO Grahame Marshall and leadership expert Peter Baines, who was making his second appearance since addressing the inaugural dinner, which I had the pleasure of MC'ing back in 2012.

This year Peter spoke of corporate social responsibility, which is managed at CMG by Andrew Mostyn, who is, among many voluntary community roles, WA ambassador for the Australian charity Hands Across the Water, which is chaired by its founder Peter Baines.

Started after the 2004 Boxing Day tsunami, Hands Across the Water gives at-risk Thai children and their communities a helping hand.

To learn more and to support this very worthwhile charity, visit www.handsacrossthewater.org.au

Operating across Australia from processing facilities in WA and Tasmania, CMG produces fresh pork, seafood, protein meal, tallow and fruit products for food service, retail and wholesale clients.

According to its website, CMG has five pig farms, supplying 3000 pigs per week to its Linley Valley Pork abattoir.

More than a quarter of its herd is free range, where sows are outside all their lives, and the balance is group housed.

About 75 percent of CMG piglets are reared in loose-housed deep-litter systems.

Linley Valley Pork is the largest Australian exporter of fresh, chilled and frozen pork products into the Singaporean market.

Pigs in space the new norm

THE Australian pork industry's progressive and voluntary move to phase out the use of sow stalls has reached the 70 percent mark.

Sow or gestation stalls are a form of housing historically used to individually confine sows during pregnancy.

This means that 70 percent of pregnant sows in Australia are now spending at least 90 percent of the duration of their pregnancy in loose housing.

This achievement has been driven by Australian pork producers recognising that the past forms of confinement of pregnant sows are no longer supported by the community.

The decision to move to voluntarily phase out sow stalls was taken in late 2010, with the target for a total phase-out by 2017.

Australian Pork Limited CEO Andrew Spencer said the proactive initiative of Australian pork producers has propelled the industry onto the world stage as leaders in animal welfare.

It also provides the marketing opportunity for Australian pork to differentiate itself from its global competitors who continue to use gestation or sow stalls.

"The voluntary phase-out of sow stalls places the Australian industry well ahead of its global competitors on sow welfare," Mr Spencer said.

"In Europe, pork producers are moving to limit the use of sow stalls to four weeks per pregnancy.

"In the US and Canada, any reference to 'sow stall free' means up to five weeks in a gestation stall, but the vast majority of sows remain in stalls for their full pregnancy in these countries."

Mr Spencer said calls for a legislative ban on sow stalls in some states are a betrayal of the positive work Australian pork producers are already achieving in their own right and at their own cost.

A good example of misguided legislative change is the ban on sow stalls introduced into the Australian Capital Territory, where there is no pig production.

The ACT legislated ban did not benefit one pig.

"Those calling for legislative change on sow stalls are misrepresenting our industry by trying to indicate that they are still standard practice, which is now proven as patently wrong," Mr Spencer said.

"It's time for some honesty on this subject.

"Australia's pig producers should be supported in this world-leading change, not continually undermined by anti-farming groups hiding behind a sometimes-phony welfare agenda."

What the community does need to know is that over 70 percent of ham, bacon and smallgoods consumed in Australia is made from imported pork, which is not being produced according to the welfare standards currently being achieved by Australian producers.

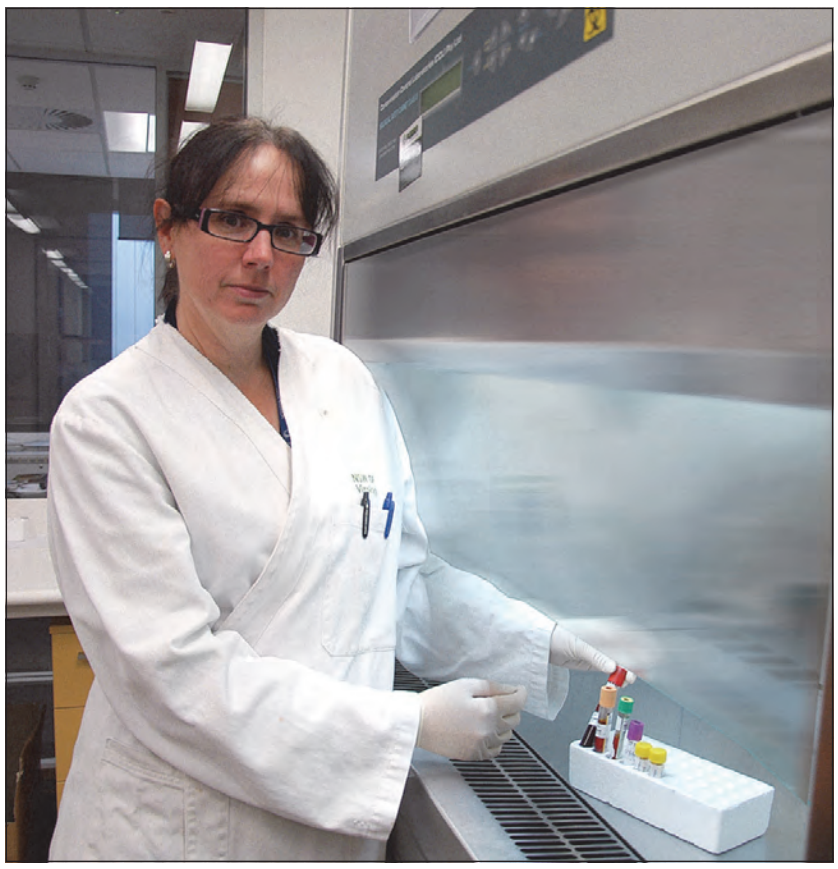
Mr Spencer said legislative bans on sow stalls would ignore and devalue what the industry has already achieved.

"Where the Australian community can assist is by making sure the smallgoods, ham and bacon they buy is Australian grown," he said.

"That way Australians will be supporting both the leadership and genuine commitment of Australian pork farmers to the best care and welfare of their animals."

Pigs cotton on to rope trick

■ Pork CRC Project 2A-108 'Evaluation of oral fluid samples for herd health monitoring of pathogens and the immune response in pigs'



Dr Deborah Finlaison

AFTER graduating as a veterinarian from the University of Sydney, Deborah Finlaison spent six years as a veterinarian in a practice before commencing as a veterinary virologist in the virology laboratory at the NSW Department of Primary Industries Elizabeth Macarthur Agricultural Institute.

Deborah completed her PhD in 2010, identifying a new viral disease of pigs (porcine myocarditis syndrome) caused by bungowannah virus and the next year received the Ralph Hood Award from Animal Health Australia for recognition of 'leadership potential and a strong commitment to improve animal health in Australia'.

In addition to her diagnostic role in the virology laboratory, Deborah has research interests including diagnosing and controlling viral diseases of pigs.

Oral samples

Overseas, interest in the use of oral fluid samples from pigs for disease surveillance has increased exponentially in the past five years.

The benefits include easier sample collection, decreased costs for diagnostic testing on a herd basis and the potential for real-time herd health monitoring.

Along with her NSW DPI work colleague, Dr Alison Collins, Deborah saw how the use of oral fluids for disease monitoring was expanding overseas and therfore wanted to evaluate this approach for sample collection and disease monitoring for the Australian piggery.

Oral fluid is a mixture of saliva, serum transudate (fluid derived from the bloodstream), inflammatory cells, bacteria, fungi, viruses, bronchial and nasal secretions and food debris.

Its usefulness for disease monitoring is because it contains pathogens and antibodies derived from the mouth and bloodstream.

Rope trick

Samples are collected by hanging one or more cotton ropes in a pen for 20-30 minutes.

Due to the inquisitive nature of pigs, many will chew the rope during the sampling period, after which the rope is collected and the oral fluid squeezed into a container and sent to the laboratory.

Pathogens are detected directly (polymerase chain reaction) or by detection of antibodies (enzyme-linked immunosorbent assay).

Unfortunately, oral fluid is not quite as easy to work with as blood.

Antibody levels are 10 to 1000 times lower in oral fluid compared to serum.

Components of oral fluid can also affect the capacity to detect pathogens by PCR.

Pork CRC Project 2A-108 focused on developing capacity and knowledge on the collection of oral fluid samples and determining storage and transport conditions in the Australian environment to provide an optimal sample for detection of pathogens by real-time PCR and antibodies by ELISA.

Deborah and her team also evaluated whether they could detect DNA from porcine circovirus 2 and lawsonia intracellularis and antibodies in these oral fluid samples.

They later looked to see if the level of PCV2 DNA and antibodies in oral fluid correlated with that in blood and if lawsonia intracellularis levels in oral fluid correlated with antibody levels in blood.

They showed that the method of sample handling after collection was critical to give the best chance of detection of pathogens or antibodies.

Oral fluid samples need to be placed in a refrigerator as soon as possible and stored in a freezer if not immediately sent to the laboratory.

Deborah and her colleagues were able to readily detect lawsonia intracellularis and PCV2 DNA in oral fluid samples and report that it's likely PCR tests for detection of pathogens will require limited optimisation to be successfully used.

Challenging detection

Antibody detection is more challenging, and while Deborah and her team were able to successfully adapt a test for detection of PCV2 antibodies, the low levels of lawsonia intracellularis antibodies could not be detected.

Importantly, a good correlation was observed between levels of PCV2 DNA and antibodies in oral fluids and serum and between the lawsonia intracellularis antibody concentration in serum and the number of organisms detected in oral fluid.

While the use of oral fluid samples is being driven by surveillance needs for porcine reproductive and respiratory disease virus and swine influenza viruses overseas, Deborah and her team believe it is a sampling approach that should continue to be explored in Australia.

Exotic potential

It offers considerable potential for exotic disease surveillance and has been used for the detection of foot and mouth disease and porcine epidemic diarrhoea virus.

There is capacity to do more real-time surveillance for viruses and bacteria across multiple age groups on a farm, which may assist with decision making for timing of vaccination or antibiotic treatment.

For further information, contact Dr Deborah Finlaison by email at deborah.finlaison@dpi.nsw.gov.au

Pork CRC
Project Leader Profile

New information for producers

- Piggery Manure and Effluent Management and Reuse Guidelines 2015
- Best management practice booklets
- Electronic Environmental Management Plan 2015
- Electronic nutrient balance calculators 2015

A NUMBER of new documents are now available to producers to assist in reducing risk, increasing revenue and reducing costs on farm.

They cover issues including energy efficiency, odour, new pond design and nutrient management.

Piggery Manure and Effluent Management and Reuse Guidelines 2015

The new 'Piggery Manure and Effluent Management and Reuse Guidelines 2015' and associated glove box guide incorporates the latest research outcomes and technical information on all things effluent and manure.

These guidelines focus on the potential of effluent to provide significant productivity and profitability opportunities for Australian producers.

They cover all aspects of effluent and solids management including collection, handling, treatment, reuse, monitoring, nutrient valuation and duty of care statement for the selling of products from conventional, deep litter and rotational outdoor piggeries.

The guidelines also allow producers to quantify manure nutrients for reuse as well as provide a method to place value on the nutrients.

The guidelines highlight the economic advantage of about $156/ha in applying five tonnes/ha spent bedding compared to equivalent rates of conventional fertiliser.

The associated 'Piggery Manure and Effluent Reuse glove box guide 2015' complements these guidelines and provides worked examples and templates for producers to determine nutrient removal by crops/pastures and application rates for effluent, manure and spent bedding for conventional and deep litter systems.

For rotational outdoor systems, worked examples and templates are provided to calculate nutrients added to paddocks as well as nutrient removal rates.

This can assist in determining stocking densities and rotations.

Best management practice booklets

A series of six best management practice booklets have been produced based on the latest science and understandings.

These booklets cover: reducing energy costs in piggeries; minimising odour from piggeries; rotational outdoor piggeries and the environment; new design guidelines for anaerobic ponds; getting the best value from manure nutrients; and sedimentation and evaporation pond systems.

Information available includes:

- The breakdown of energy use on Australian piggeries and ways to measure and reduce energy use on site;
- Identification of odour sources and mitigation strategies to reduce odour impacts;
- Identification of environmental issues associated with outdoor piggeries, site selection and land management practices to minimise impacts;
- New design guidelines for anaerobic ponds that will reduce earthworks, create a smaller footprint, be less expensive, reduce odour, be simpler to desludge and require smaller separation distances;
- The composition of manure products, how to determine sustainable reuse rates and valuation of manure nutrients; and
- The design, construction and operation of sedimentation and evaporation pond systems.

Electronic Environmental Management Plan 2015

The electronic Environmental Management Plan is an easy to use template for indoor and outdoor piggeries.

It includes drop down boxes with commonly used practices and the provision to write site-specific information if required.

The template is compatible with the National Environmental Guidelines for Piggeries (2010 revised) and Rotational Outdoor Piggeries (2013) and includes a site-specific risk assessment, pollution incident response plan (NSW requirement) and duty of care information for off-site reusers.

The EMP can assist with day to day environmental management, demonstrate best practice to regulators and be a requirement for decision makers when developing or expanding a piggery.

Electronic nutrient balance calculators 2015

Electronic nutrient balance calculators have been designed for conventional, deep litter and rotational outdoor piggeries.

The calculators are designed to assist piggery operators to sustainably reuse manure and effluent from conventional and deep litter piggeries, and manage paddock rotations for outdoor piggeries.

These calculators are consistent with the newly available APL Piggery Manure and Effluent Management and Reuse Guidelines 2015 and glove box guide and complement the newly released electronic Environmental Management Plan templates for conventional and rotational outdoor piggeries.

The easy to use calculators only require a few inputs and will calculate the nutrients in the solids and liquid for conventional piggeries, the nutrient removal rates and sustainable manure spreading rate per nutrient (tonnes/ha), maximum spreading rate (tonnes/ha) and the quantity that can be spread (tonnes).

They also calculate the fixed mass nutrients in the solids and the minimum area for sustainable reuse.

For liquids, you can calculate sustainable irrigation rates, that is, maximum irrigation rate and maximum volume that can be applied to land.

You can also calculate the fixed volume with minimum areas and maximum application rates.

For rotational outdoor piggeries, you can calculate the nutrients added per pig phase and calculate crop removal to give a nutrient balance over subsequent non pig phases.

Included is a pictorial graph of nutrient removal over the cropping phase.

This can assist with determining stocking rates and rotations.

Hard copies of the guidelines and booklets can be obtained from Janine Price at janine.price@australianpork.com.au or by calling 02 6270 8827.

The electronic templates are available on the APL website at australianpork.com.au/industry-focus/environment/national-environmental-guidelines-for-piggeries and australianpork.com.au/industry-focus/environment/outdoor-production

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Not forgetting the little guys

AUSTRALIAN Pork™

Marketing Matters

by **PETER HAYDON**
General Manager Marketing

WHILE there are many good things about working for pig producers, one thing you need to get thick skinned about quickly is every producer thinks you spend too much time and money on one thing and not enough on another.

If you don't like being told you're wrong every day, don't apply because this job's not for you!

Two of the most common comments I get are "you only care about the big guys" from smaller producers and "you spend far too much time and effort on the small producers" from the big producers.

One answer to that is to try to make everybody happy in the short term and agree with everyone, that is, do a little bit of everything.

Another way is to not focus on a conversation that is unwinnable, but focus on outcomes.

So let's discuss the outcomes of two retail channels that everyone can service; from the biggest integrated producers to the most niche, small producers, butchers and restaurants.

The PorkStar chef program, run so ably by Kylie Roberts and Mitch Edwards, turned 10 this year.

We've had a decade of celebrating outstanding chefs, listening to their insight and pulling them together to share expertise in pork and cuisine.

This program has coincided with the birth, expansion and now ubiquity of pork belly, not only in restaurants but these days in supermarkets too.

It is also the best-recognised and most broadly supported restaurant program we have records for.

The 10th anniversary celebration in Sydney was stunning.

The team took over the whole of a central city shopping arcade and set it up for PorkStar.

Our only challenge now is how do you top that?

Particularly for the couple of hundred leading chefs who attended.

Still, it's a great type of challenge to have.

It was our best event yet in a channel that continues to grow faster than in-home eating.

Butchers, on the other hand, had been having a hard time.

The intensified competition between Woolworths, Coles and Aldi had seen butchers' share reduce from roughly a quarter of home-cooked meat sales around three years ago to about a fifth today.

While butcher overall volume sales are down 1 percent versus last year, pork sales are up by almost 10 percent.

This is mainly due to beef in particular being so expensive, however, we like to think that Jennifer Fletcher's initiatives such as fortnightly tips from Australian Pork Limited research, sharing ideas among butchers and butcher learning tours, such as the one recently completed in Sydney, are also helping butchers to successfully trade with pork.

We are aware there is a tendency to speak of advertising and supermarkets, however we want to remind you that we deliberately over-invest in butchers and restaurants.

We do this in part because they are accessible to every pig producer and in part because both chefs and butchers contribute to pork sales not just by making sales, but also by being advocates for this versatile product.

Tawnya Barr, Richard Ptacnik, Kylie Roberts and Rowie Dillon enjoyed a drink.

The Sydney PorkStar event was simply stunning.

Brent Savage and Colin Fassnidge.

Christine Manfield with a tasty treat.

PorkStar's Mitch Edwards and Kylie Roberts.

PorkStar program powers on

THE Sydney PorkStar event was held in the historic Strand Arcade, which was closed to the public and set up for a formal long table dinner.

Chefs Brent Savage, Colin Fassnidge, Nino Zoccali and Christine Manfield prepared the meal for the more than 100 top chefs in attendance.

PorkStar was created to encourage more chefs to include pork on their menus.

Australian Pork marketing manager Mitch Edwards said there have always been chefs who loved pork and serving it for their customers, but in the past decade we have seen that love spread and their creativity grow.

"The PorkStar program has become so much bigger than we anticipated and each year we have new chefs joining us to celebrate the pig," he said.

"This year's Sydney PorkStar saw us indulged by the porky creations from our good friends and world-class chefs, Brent, Colin, Nino and Christine.

"They've showcased delicious Australian pork and lifted the bar on creativity.

"In the past decade we've had more than 60 chefs featured through our PorkStar campaigns and have celebrated the magical beast with thousands more."

Mr Edwards said more than 50 events have been held in the PorkStar national tours, as well as countless PorkStar pop-up events featuring porcine delights.

"We are enormously grateful to all the PorkStar chefs, who through their innovative pork dishes became ambassadors for the industry," he said.

"These are chefs who are passionate about what they do and who are influencers in their industry.

"I've been thrilled to witness chefs jumping on board with our program and also adding innovative pork dishes to their menus, including many who are utilising the whole beast from nose to tail and going the whole hog for their love of pork."

www.pork.com.au

Jeremy Strode with Australian Pork Limited CEO Andrew Spencer.

Pauline Nguyen and Mark Jensen.

An incredible dining location.

Portable effluent pumps – better by design

AUSSIE Pumps has announced the availability of a new cost-effective single-phase submersible pump designed for septic tank applications.

Called the UT series, the pump is manufactured by Tsurumi Pump, the world's largest submersible pump manufacturer.

Designed specifically for effluent and sewage applications, the pump is fitted with a unique vortex-style impeller that passes compressible solids up to 35mm in diameter.

Aussie Pumps claims these cast iron pumps have great flow versus head characteristics and are extremely efficient.

Maximum flow available from the range is 440l/pm, while maximum lift, or vertical head, is 12.5m.

The pumps are powered by single-phase, capacitor-start electric motors in the range of 0.4kW to 0.75kW.

All pumps are supplied with a heavy-duty 10m submersible cable.

Aussie Pumps' Craig Bridgement said the UT series is loaded with features designed to give homeowners and operators the best possible longevity with low maintenance costs.

"The best news for customers is our ability to match the quality and features of the pump with a low purchase cost," he said.

"We've been able to slash prices by 35 percent based on our expanded volumes."

The pump's motor is a dry-type squirrel cage induction style and is housed in a watertight casing.

It conforms to class E insulation and the UT pumps can be used in ambient temperatures up to 40C.

The motor features an inbuilt thermal motor protection device that reacts to the heat generated by an over current or dry run conditions.

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

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

The UT series incorporates a vortex impeller that is highly resistant to abrasion.

Performance is largely unaffected by minor wear.

The unique vortex design allows solids in suspension to easily pass through the pump.

Tsurumi incorporates a number of features that enhance the life expectancy of the pump and cut maintenance costs.

These include a unique anti-wicking cable gland whereby water is prevented from wicking down inside the cable.

The motor is protected even if the cable is damaged or the end accidentally immersed.

All Tsurumi pumps have a double silicon carbide mechanical seal.

Both seal surfaces are submerged in an oil chamber, well away from the pumped liquid.

A patented oil lifter ensures the mechanical seal faces are always lubricated and cooled, even if the pump is installed horizontally.

Tsurumi Pump developed the product range in response to requirements in the Japanese market for super-tough pumps for sewage applications.

Like all Tsurumi pumps, the UT series is backed by a three-year warranty against faulty materials or workmanship.

The Tsurumi UT pumps are not only available as standard effluent pumps, but also as automatic stop/start versions that feature a simple float control system to prevent dry running, reduce power consumption and extend operating life.

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

The Tsurumi UT series single-phase sewage pump is a cost-effective solution for rural septic tanks.

China-Brazil in bilateral trade deal

CHINA and Brazil are to step up action on a bilateral trade agreement.

Following talks between visiting Chinese Premier Li Keqiang and Brazilian President Dilma Rousseff, the two sides agreed to form a working group under the trade subcommittee of the China-Brazil High-Level Coordination and Cooperation Committee to promote services trade.

The existing working group for investment will continue to promote two-way industrial investment.

The two sides pledge to further facilitate bilateral co-operation on a range of goods and activities including food processing, agriculture, renewable energy, animal husbandry and services.

Bilateral investment and co-operation will be strengthened in agriculture trade, infrastructure, logistics, energy, mining and manufacturing.

In a statement, the two countries vowed to expand the pork, beef and poultry trade.

The two sides agreed to conduct regular consultations on respective macro-economic policies as well as international and regional financial issues, hailing the progress towards establishing a BRICS development bank and a contingent reserve arrangement.

The agreement came during an official visit to Brazil by Premier Li, who earlier this year arrived in Brazil as the first stop on his four-nation Latin America tour.