Australian Pork NEWSPAPER

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Graham Laitt of Milne Agrigroup, the Keam family and Coles general manager production Allister Watson.

Great Southern farmers officially launch free range pork with Coles

FARMING families in the Great Southern region of Western Australia recently met with Coles to officially launch its new contract to supply Coles Finest free range pork in more than 700 supermarkets nationally.

The meat team from Coles visited Albany to launch the new free-range pork line, which will be supplied by pork producers in the Great Southern region for distribution to Coles supermarkets nationally.

Under the new contract with Coles, WA's largest agribusiness Milne Agrigroup, which eight local farming families are supplying, will triple its free range pork production.

MAG is already supplying Coles with 350 pigs each week sourced from four family farms, but will boost its supply to 1200 pigs a week by mid-2015, driving new demand for the additional eight farming families located around Albany.

The free range pork will be sold under the Coles Finest brand in cuts such as pork fillets, sirloin steaks, cutlets, mince, easy carve scotch roast and easy carve leg roast.

The new arrangement to source free range pork, which is accredited by the Australian Pork Industry Quality Assurance Program and endorsed by the RSPCA, is the first of its kind in WA.

Representing pork and agriculture

AUSTRALIAN Pork™

Point of View

by ANDREW SPENCER CEO

THE National Farmers' Federation Congress took place in Canberra mid-October and Australian Pork Limited, as a member, was present.

A report conducted by Newgate Communications was released at the Congress into the effectiveness of present systems of agricultural advocacy within Australia and options for change.

You may have seen the news through the media after the report's release.

Not surprisingly, the Newgate review concluded that farmers were in the main dissatisfied with the quality of representation on their behalf.

They believe there are too many bodies representing farming at a national, state and commodity level.

They also feel there has been too much disunity among various representative bodies and that there is a lot of waste and duplication in the system.

Most importantly, they believe the effectiveness of the system in achieving a level of support and understanding through the community and political arenas for Australian agriculture is poor.

Since being a member of the NFF over the past couple of years, I have been surprised by some things.

The first is that for an industry creating value to a level of $40-$50 billion each year, the resources made available to those who represent it are completely insufficient.

This is true of the NFF itself as well as some of the state and commodity bodies that form the membership of the NFF.

The second thing I have been surprised by is the high level of professionalism and capability of the NFF, despite the lack of resources.

The fact that we allow our representation to be compromised by a lack of resources is a symptom but not the source of the problems of the present federated system for agricultural advocacy.

Farmers being disenfranchised with the system are walking away from their traditional membership bodies and taking their money with them.

The system is the problem and not the individuals or bodies, many of whom are highly dedicated and passionate about agriculture and do a great job defending it.

The Newgate review recommends a new 'unified structure' whereby farmers become members of a single body that is able to represent them at a national level (where most of the big policy issues are believed to be), a state level – depending on which state they farm in – and for the commodity interests they have.

Advantages of such a system are that there are single, consistent policy positions and associated messages to external stakeholders such as politicians and regulators, the system is more efficient and avoids duplication and there is one membership and thus one fee payable.

Under one national brand, agricultural representation has the opportunity to be able to make a bigger splash with fewer resources.

A project has now been established to look into the implementation of the Newgate review – entitled Project Streamline and Strengthen.

This project will be consulting with all the present agricultural advocacy interests on the outcomes of the review and the plans for a new future for agricultural representation.

APL supports this project and I am chair on a working group for the project, looking into the options around how a new system would work for developing policy positions and advocating them.

As a result of the Newgate review as well as the recent report from the grass-fed cattle levy Senate inquiry, there has been a lot of attention on the pork industry services model, through APL.

It's generally accepted that the pork model works well for our industry and the various services we provide are appropriately funded, which is not the case for other peak councils.

A new representative structure for agriculture is unlikely to change how we do things in the pork industry for our own specific policy interests but I am very keen on retaining a strong link with any future national membership body for farmers undertaking policy and advocacy work for the broader industry.

Our membership of the NFF has highlighted there are many overlapping policy interests for all areas of farming that a single national body is best suited to address.

The Australian pork industry will be a better one with a strong, well-resourced national farming body.

I hope that pig farmers also choose to be members of any new unified farming body.

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Pig Industry Calendar of Events

2014

NOV 11 - 14 – EuroTier 2014, Hanover, Germany www.eurotier.com

DEC 5 - 6 – PRRS Symposium, Chicago, Illinois US www.prrssymposium.org

2015

JAN 12 - 23 – Science & Practice of Pig Production course, University of Adelaide Roseworthy campus, SA Ph: Paul Hughes 08 8313 7603 E: paul.hughes@sa.gov.au

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

JAN 27 - 29 – International Production & Processing Expo, Atlanta, Georgia, US www.ippexpo.org

JAN 28 - 29 – Iowa Pork Congress, Des Moines, Iowa US www.iowaporkcongress.org

MAR 11 - 13 – VIV Asia, Bangkok, Thailand www.vivasia.nl

APR 14 - 15 – Victorian Pig Fair, Bendigo, VIC E: aileen@acelabservices.com.au

APR 14 - 15 – Science with Impact – Annual Conference, Chester UK www.bsas.org.uk

APR 22 - 24 – European symposium of Porcine Health Management, Nantes, France www.esphm2015.org

APR 23 - 25 – VIV India, Bangalore, India www.vivindia.nl

MAY 7 - 9 – 6th European Symposium of Porcine Health Management, Sorrento, Italy www.esphm2014.org

MAY 17 - 20 – Alltech Symposium, Lexington, US www.alltech.com

MAY 19 - 21 – VIV Russia, Moscow, Russia www.vivrussia.nl

JUN 4 - 6 – World Pork Expo, Des Moines, Iowa, US www.worldpork.org

JUN 24 - 25 – International Symposium on Emerging and Re-emerging Pig Diseases, Kyoto, Japan www.emerging2015.com

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

SEP 16 - 19 – Space 2014, Rennes, France www.space.fr

SEP 23 - 25 – VIV China, New China International Exhibition Center, Beijing, China www.vivchina.nl

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

2016

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

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

porknews.com.au

Europe visit report – Part two

AUSTRALIAN Pork™

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

AS mentioned in last month's issue of *Australian Pork Newspaper*, I recently attended the European Federation of Animal Science (EAAP) meeting in Copenhagen, Denmark.

At the EAAP meeting I presented a paper titled 'Carcase weight is not a reliable tool to minimise consumer acceptance risk of boar taint in pork'.

I have provided a research and development summary of the numerous topics of interest presented at the EAAP meeting.

The topics of interest were stress and immune function and their impact on productivity; responsible use of antibiotics; precision farming systems; appetite control; slaughter observations to improve welfare; market-oriented pig production from conventional and non-conventional systems; behaviour and welfare in farm animals; and the Danish way of pig production.

Nutrition

As expected, there were quite a few papers on nutrition investigating a range of factors including dietary energy levels, energy to lysine ratio, valine to lysine ratio and so on.

In general the results were expected and in many cases inconclusive and are very briefly summarised:

- Gilt development strategy (varying dietary energy levels during rearing and mid-gestation) did not affect reproductive performance, but the probability of death/removal was lower for gilts fed high-energy diets during rearing and gestation (13.2-29MJ NE/d; 27.3MJ NE/d). This lower culling of first parity sows was also observed across lifetime performance results in more piglets produced per sow lifetime.
- Sows are not able to compensate for insufficient energy supply in terms of milk yield. Milk yield depends on the optimal ratio between fat and protein mobilisation that can be achieved by selecting the right lysine to energy ratio.
- Dietary valine to lysine in sow diets did not affect milk composition or average daily gain in piglets.
- Carnitine supplementation tended to improve the postnatal development of low birth weight piglets.
- Piglet colostrum intake was as important as piglet birth weight in terms of weaned weight (day 28).
- The optimal total lysine level in finisher diets was 0.69 percent for heavy barrows and gilts.

Heat stress and its effects on productivity was another hot topic (pardon the pun) at the EAAP meeting, especially in the ruminant sessions.

In speaking with some of the Aussie nutritionists at the meeting, maybe heat stress is somewhat overlooked in Australia and may warrant a bit more attention, especially the nutritional strategies to alleviate the effects of heat stress.

Perhaps more relating to the EU situation with high prolific sows herds and unviable piglets was a review of the role and requirements of water-soluble vitamins in the modern sow.

A number of compelling arguments were presented to review the roles and requirements of some vitamins beyond prolificacy to other aspects such as survival and disease resistance in piglets.

Welfare

As expected, many of the pig papers in the welfare sessions focused on the welfare of group housed sows.

For the most part, the sow pen farrowing results reported were similar to those released by the Pork CRC.

In general, most papers reported a higher piglet mortality in farrowing pens compared to farrowing crate systems.

A paper on enhanced reproductive performance in gilts caught my attention.

Fleming Thorup of the Danish Pig Research Centre and a regular visitor to Australia, reported that small piglets at birth had a significantly higher chance of producing a litter if they were weaned compared to piglets that were large at birth.

It was speculated that restricted growth may have a positive effect on the development of leg quality, thereby enabling the pig to reach maturity, mating and gestation status.

The authors of 'Early detection of lameness in group housed sows using acceleration data from ear tags' (Scheel et al, Christian-Albrechts University, Germany) outlined a methodology using time series data from ear tags measuring acceleration to identify individual sows with lameness issues, thus facilitating their extraction from the herd.

In addition to being able to effectively identify lame sows, the acceleration data allowed researchers to identify and predict the onset of lameness.

In 'Development of an on-farm sow stance information system to objectively detect sow lameness' (Maselyne et al, KU Leuven, Mechatronics, Biosensors & Statistics, Belgium), the researchers attempted to develop an objective lameness detection system using four load cells in electronic sow feeders.

While still early days, the research was able to provide an objective initial warning measure of sow lameness.

One of the technical issues with sows and ESFs was that many sows placed their hind legs on the same load cell as a consequence of the food placement, which was at a 45-degree angle to the sow's position within the ESF.

A cross-sectional study (Cador et al, Anses, France) on risk factors of gestation sow leg disorders in group housing systems was conducted across 108 farrow to finish farms.

The group housing systems assessed were: (i) large stable groups with ESFs; (ii) large dynamic groups with ESFs; (iii) small groups with full stalls; and (iv) small groups with partial stalls.

Concrete flooring was a major risk compared to straw bedding, and while walk-in full stalls were most protective, they did not affect sow lameness.

Large group sizes, feeding restrictions in late pregnancy and a high sow to stockperson ratio were also identified as significant factors that contributed to leg issues in sows.

The need for novel livestock welfare and stress markers is one area that is also attracting quite a bit of research and industry interest.

While behaviour and cortisol have been used in the main as indicators of stress and welfare, there are a number of limitations.

Proteomic technologies are now being used to identify stress and welfare (Marco-Ramell, University of Barcelona, Spain), focusing on apolipoproteins as indicators of cell damage as a consequence of housing stressors such as stocking density.

While this group was able to show differences in response to negative and control groups, a number of technical issues were identified including the effect of some of the serum proteins that may mask changes in less abundant protein markers.

In 2010, Danish authorities introduced legislation subjecting pig herds with high antibiotic use to fines and increased regulation.

A survey by Dupont and Stege (University of Copenhagen, Denmark) reported that there was a 52 percent and 67 percent increase in the proportion of finisher pigs with abscesses and osteomyelitis respectively, suggesting a reduction in antibiotic use (as a blanket ban) may pose issues that could affect animal welfare.

Some of the other interesting papers in the early detection/precision livestock farming sessions included the SoundTalks Pig Cough Monitor as a tool to monitor respiratory health in grower-finisher pigs; radio frequency systems to detect health problems of individual animals based on their drinking behaviour; and continuous surveillance of pigs in a pen using learning-based segmentation in computer vision.

As mentioned, these are interesting ideas but they have some way to go before the technical issues can be ironed out and these technologies are able to be used on-farm.

Finally, in this welfare section I would like to report on a production concept called Pigs in Comfort Class involving the Dutch pork industry and a major Dutch welfare lobby group in practical animal welfare research (De Greef, Wageningen UR, the Netherlands).

Briefly, the two groups had to work together to design and build a pig production system that essentially met the needs of all.

One of the outcomes was the tensions between cost and welfare were apparently overcome by a joint ownership of the research project.

This initiative is marketed as a niche product with a welfare brand and markets about one million pigs annually.

It's an interesting concept that actually requires both sides of the welfare debate to undertake true collaboration and take ownership of a pig production system.

Quality and integrity

A number of papers focused on the use of proteomic technologies to assess meat authenticity and traceability.

This is obviously quite topical given the implications from the EU horse meat substitution scandal.

It would appear that such technologies may offer options for highly comminuted processed meats.

Given our focus on meat traceability and authenticity using Physi-Trace technology, we may need to look at such technologies given some of the technical barriers we face with comminuted product such as sausages.

APL will be maintaining a watching brief on this area of research as there is quite a way to go before these technologies are suitable for industry implementation.

With the move away from surgical castration in the EU a major topic of discussion, a number of papers focused on boar taint and

☛ continued P3

Pork CRC CEO Roger Campbell and chairman Dennis Mutton enjoyed meeting with WA-based researchers at the WA Pork CRC update on October 17 at South of Perth Yacht Club.

Feed supply and nutrition was the topic being discussed when Roger Campbell got together with consultant nutritionist Daniel Goussac and Cuballing, WA producer Graeme Dent at the WA update.

Pork CRC performs for producers

Pork CRC

Initiatives

by **DR ROGER CAMPBELL**
CEO

OCTOBER is now behind us, as is the annual round of roadshows or updates.

I gave the Pork CRC updates in Queensland and Western Australia and our research and development manager Graeme Crook provided the updates in Victoria, NSW and Tasmania.

I thought the mood among producers was optimistic, bordering on enthusiastic and all meetings were well attended and very interactive.

We covered a number of topics and outcomes, including the 2013-14 annual results from our benchmarking project – but not all were covered at all the meetings, so in this column I have reiterated the more important outcomes, or those with the most immediate implications.

I have finished with a few comments on what we're seeing in the benchmarking group.

Fat chance

In Pork CRC Program 1 'Reduced confinement of sows and piglets' and reproduction in general, I think the most important technology discussed was one from the US, that is the impact of the levels of linoleic and linolenic fatty acids in the lactation diet on reproduction and, in particular, the very positive effect seen on summer infertility when the levels of the two fatty acids were optimised and betaine was included in the lactation diet at 0.2 percent.

We only have one chance a year to reduce the impact of summer on fertility and this technology is worth trying this summer.

Nutritionists will have all the detailed information and I suggest producers discuss reformulation of the lactation diet with them (if needed) to adjust the levels of the two fatty acids and, of course, include betaine in the same diet this summer.

Vital vitamin

Dr Jae Kim and his team at the Department of Agriculture and Food, Western Australia have shown experimentally and validated the results commercially that higher levels of vitamin E reduce the impact of weaning and *E. coli* challenge on pig performance and possibly animal health.

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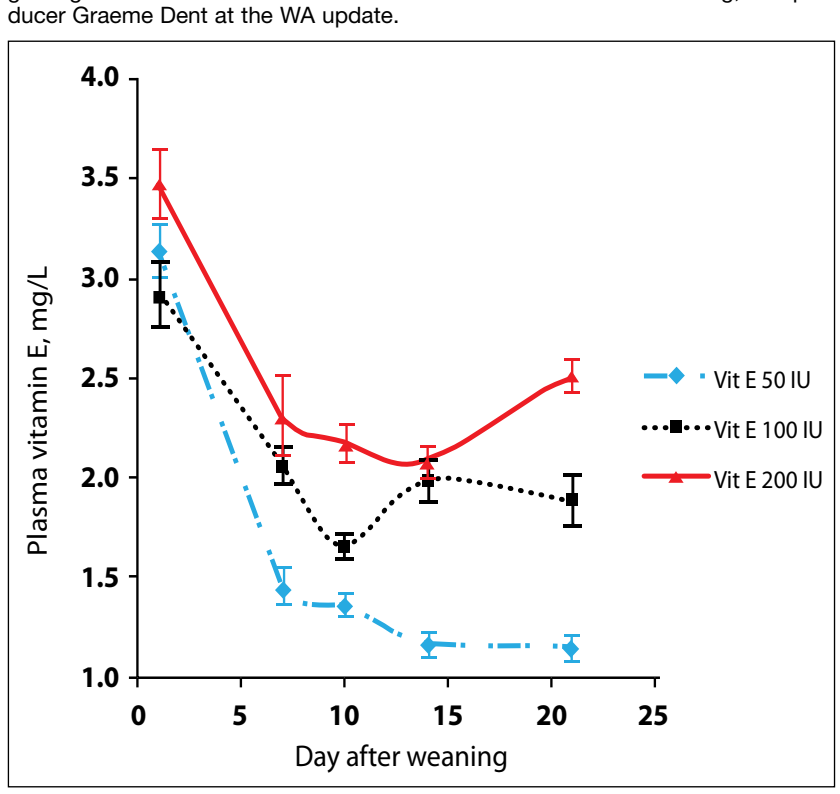


Figure 1: Effects of dietary vitamin E level on the plasma vitamin E level of pigs after weaning and challenged with *E. coli* starting day seven after weaning.

Europe visit report – Part two

☛ from P2

strategies to eliminate it in entire male pigs.

Genomic selection has been muted to be one such strategy, however the issue has always been that any genetic selection for low boar taint first does not eliminate boar taint and second could negatively impact productivity, especially reproductive productivity.

Strathe et al (University of Copenhagen) presented a paper on genomic selection to reduce boar taint in Danish pigs.

The results from this study found that the correlations between androstenone concentrations and small size were minimal, suggesting that selection against boar taint in Danish pigs would have little impact on fertility.

This result is rather surprising, but then again it is early days.

In speaking with the author, this relationship may be very genotype specific and perhaps such a strategy will need to be progressed with care in Australian genotypes given the somewhat lower reproductive performance compared to Danish genotypes.

Detection of boar taint at slaughter (Trautmann et al, University of Goettingen, Germany) using the sensory evaluation method on the evisceration line was found to be very variable and was significantly affected by the 'androstenone' sensitivity of the assessor.

Such assessor variability resulted in both over and under assessment of boar taint levels.

As mentioned in last month's article, I witnessed this sensory boar taint assessment and despite being boar taint sensitive, struggled to pick up any boar taint given the many confounding olfactory factors and fast line speeds.

The recent results from a study testing a new recombinant immunocastration vaccine for male pigs (Saenz et al, University of Chile) was presented.

Developed at the University of Chile, a single-dose vaccination resulted in significantly lower testosterone levels and induced testicular atrophy, thereby eliminating boar taint in the meat.

While there appeared to be no issue with the efficacy of the vaccine (based on a limited sample size), I think a single-dose vaccine may pose a few occupational health and safety issues for workers.

A consumer acceptance study (Sattler et al, Leipzig University, Germany) in Austria, Germany and Switzerland regarding alternatives to piglet castration without anaesthesia reported that consumers strongly preferred the use of the boar taint vaccine compared to entire male production or surgical castration (least preferred).

The use of the commercial name Improvac did not affect consumer acceptance.

The consumer acceptance levels for the boar taint vaccine reported in this study are similar to that conducted in other EU countries.

Finally, a few papers addressed the issue of batch liveweight variation at slaughter.

The effect of liveweight variation at the end of the grower phase on marketing weight and time to reach slaughter (Lopez-Verge, University of Barcelona, Spain) found that while liveweight at day 120 (end of grower period) correlated well with slaughter weight, this only accounted for about 15 percent of the variability.

The authors reported that other events during the weaning and grower period played a key role in affecting the variability of the batch.

As expected, the pigs with the lower liveweight at the end of the grower phase were largely responsible for the duration in the finisher phase and the commercial losses at the abattoir.

The segregation of this smaller pig group at the finisher phase resulted in a reduction in the finisher phase occupation and reduced the abattoir penalties.

For further information on any of the topics discussed in this column, please do not hesitate to contact me on 02 6270 8804 or darryl.dsouza@australianpork.com.au

Pork CRC performs for producers

Westpork general manager Neil Ferguson talked about benchmarking with Pork CRC benchmarking project manager Dr Rowan O'Hagan at the Pan Pacific Pork Expo 2014.

Catching up at the WA update were Wannamal producer Errol Howard, Pork CRC Program 4 leader Rob Wilson, Pork CRC chairman Dennis Mutton and Redmond producer John Bunn.

☛ from P3

The result showed that weaning causes a collapse in the vitamin E status of the pigs and this is exacerbated by *E. coli* challenge.

Higher levels of vitamin E (150-200 IU) were shown to reduce the inflammatory response elicited by *E. coli* challenge and significantly improve post-weaning growth performance under commercial conditions.

The effects of dietary vitamin E level (50, 100 and 200 IU) on the serum vitamin E levels of pigs after weaning is shown in Figure 1.

E. coli challenge commenced on day seven after weaning.

Whether or not you have an *E. coli* problem, it's worth considering increasing the vitamin E level of weaner diets.

Grower challenge

Jae and his team also demonstrated experimentally in immune-challenged pigs that by using methionine to increase the sulphur amino acid level of the diet offered to grower-finisher pigs, they were able to fully restore the performance and carcass weight of the challenged pigs to the levels of the controls – an amazing achievement I think.

SAAs are high in the proteins associated with immune challenge and in the experiment at DAFWA's Medina Research Station the performance of control pigs was optimised/maximised at a SAA to lysine ratio of 0.55, which is the ratio generally recommended for grower pigs.

For the challenged pigs, growth rate was markedly poorer than that of the controls on the lower SAA diets, but improved with increasing SAA level and matched that of the controls when the SAA to lysine ratio was between 0.65 and 0.75.

The results have been validated commercially in unchallenged grower-finisher pigs, suggesting the technology is likely to improve the performance of pigs with sub-clinical infection and immune challenge.

The latter is probably common in commercial facilities and one reason we don't achieve the levels of performance we expect or what the pigs are capable of.

Indeed, I think the findings have implications even under clinical disease situations.

Higher SAA levels will not prevent disease, but are likely to reduce its impact on performance.

Again, I suggest producers discuss Jae's results with their nutritionists or at least find out what SAA to lysine ratio their grower-finisher diets are formulated to.

Improvac important

We are making progress with improving the eating quality of Australian pork, though achieving consistent high eating quality remains a challenge and tends to vary across supply chains.

The results of eating quality projects involving females, entire males and immunocastrates show that in general the eating quality of immunocastrates is better than that of entire males and equal to and sometimes better than that of females.

I expect the technology to become very widely used across Australia.

In my September *Australian Pork Newspaper* column I used Karen Moore's results to explain that immunocastrates become quite fat and inefficient, starting about two weeks after the second vaccination, and the situation gets worse the longer the period between the second vaccination and sale.

I mention this because in the most recent report on eating quality across three supply chains, immunocastrates were significantly fatter and had a much lower dressing percentage than entire males in two of the supply chains.

The technology is effective at removing boar taint within 10 days of the vaccination, but becomes quite costly beyond 14 days after the second vaccination.

To maximise the benefit of Improvac, pigs should be sold two to three weeks after the second vaccination.

I suggest you check what is happening in your systems.

Group housing

At the updates we covered what is happening with group housing and the general opinion was there is now enough information available from Pork CRC research, manuals and workshops to enable producers who have transitioned to fine-tune their systems and for those yet to transition to make informed decisions on what system to implement.

We have only just received a draft final report on Pork CRC Project 1C-105 'Effects of floor space on the welfare and reproduction of group housed sows'.

The results are interesting and will contribute to discussions about managing group housed sows when the model pig code is reviewed.

I will let you know exactly what happened when the report is approved.

On farrowing and lactation, there is a long way to go to develop a pen-type system with any demonstrable value to the sow, piglet or producer and we're concentrating our R&D efforts on better establishing the welfare of sows and piglets in conventional crates and how welfare may be enhanced.

Details on all four programs are contained in our 2014 annual report, which should be available soon.

I will keep you informed of those outcomes with the greatest commercial implications.

Bench pressing

The Pork CRC benchmarking participants met on October 21 and 22 to review the 2013-14 annual results and progress across the key performance indicators over time.

Reproduction has remained static for the past three years and the biggest opportunity for the group and industry is improving born alive.

The average for gilts and sows in 2013-14 was only 11.2.

We have set an intermediate target of 12.2 and the good news is that some producers we met during the roadshows and in our group are achieving 13-14 BA, so it can be done with Australian genetics – we just need to tease out the main factors contributing to the lower BA of the majority of producers.

We have approached a few experts in the field to assist.

I understand the consequences of going overboard on BA on survival to weaning and number weaned/sow/year remains our major breeding KPI.

However, on average we have plenty of room to move before BA becomes a constraint on number weaned and all genetic companies are aware of the relationship between the two – using conventional selection indices.

Over time pre-weaning mortality and farrowing rates have improved.

On the progeny side of things we're seeing continual improvement in herd feed conversion, which averaged 3.63 in 2013-14 as you can see in Figure 2 that shows HFC over time.

I think this is excellent and world class, but I must admit that nutritionist Tony Edwards, who discussed grower herd performance at the meeting, as well as one or two participants, thought we should be doing better and were talking about a target below 3.3.

The other big opportunity for participants and industry is feed costs, which have increased linearly over time and are scarily high in the north.

I will provide a detailed analysis of the results and how we compare globally in February 2015.

If you want the nitty-gritty and to see where you stand, you should join the project.

You can get details from Pork CRC benchmarking project manager Dr Rowan O'Hagan by emailing rowanohagan@bigpond.com or calling 0427 331 598.

If you want further information on any of the matters discussed, don't hesitate to contact me on roger.campbell@porkcrc.com.au or 0407 774 714.

www.porkcrc.com.au ☛

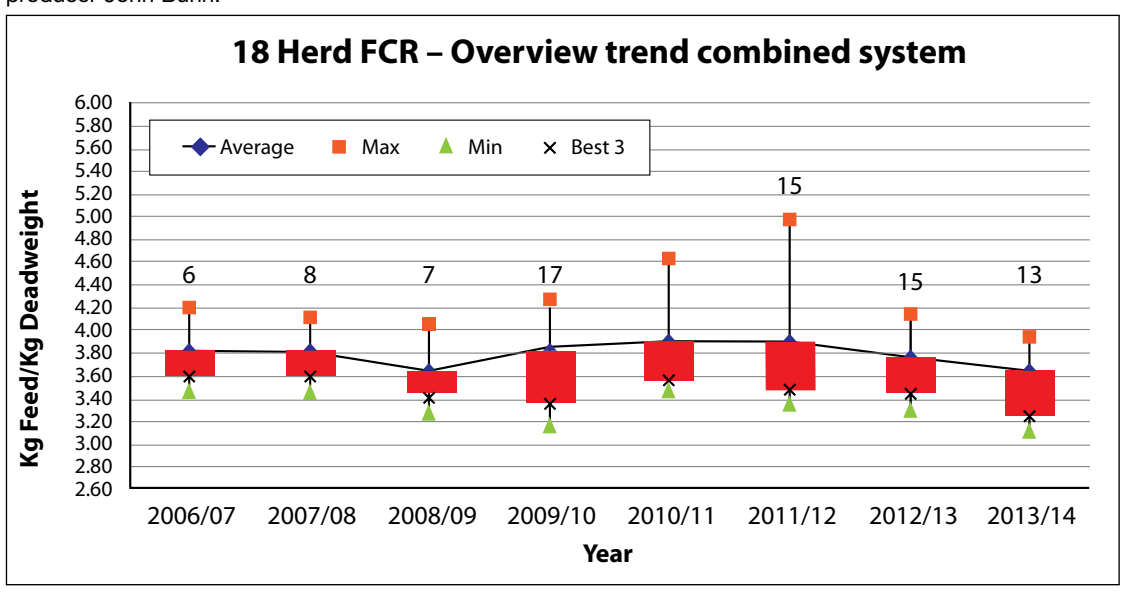


Figure 2: Change in HFC over time for Pork CRC benchmarking participants.

Science & Practice of Pig Production

PROF Paul Hughes will host his popular annual Science & Practice of Pig Production course in South Australia from Monday, January 12, 2015 to Friday, January 23, 2015 at the University of Adelaide Roseworthy campus.

Prof Hughes said the course covers just about the full spectrum of pork production, from genetics and reproduction to nutrition, housing, welfare, health and pig meat.

"Course attendees have diverse background knowledge and they appreciate that no background knowledge is assumed and everything is taught from scratch," he said.

"Even so, both the science behind pork production and its practical application on farm are encompassed in the two weeks.

"Popular components are the visits and practicals, ranging from hands-on learning at the Roseworthy piggery and in the post-mortem laboratory to visits to commercial piggeries, an artificial insemination station, feed mill and abattoir.

"University students assimilate the practical knowledge of those in the pork industry, while the pork industry people bulk up their overall knowledge and increase their understanding of the science underlying and underpinning pork production."

Field trips to piggeries and other facilities associated with the pig production industry complement classroom and practical sessions with the likes of Prof Hughes, Assoc Prof Roy Kirkwood of University of Adelaide, Tony Edwards of Ace Livestock Consulting, Pork CRC CEO Dr Roger Campbell, Rod Hamann of Australian Pork Farms Group and Dr Stephen Tait who heads up Pork CRC's Bioenergy Support Program.

Prospective attendees should save the dates and register interest in attending by contacting Prof Paul Hughes on 08 8313 7603 or email paul.hughes@sa.gov.au ☛

Is quality control a priority for trace minerals

NOW more than ever it is essential to know the source of your minerals to ensure feed safety.

Quality control has to be at the top of every producer's list when selecting trace minerals.

In recent years, contamination of trace mineral supplements has been causing more frequent problems across borders.

Recently, trace elements shipped from China including sources of zinc, copper and manganese were added to a list of products subject to enhanced checks before being allowed to enter the European Union.

Cadmium and lead contamination have been identified as the potential hazards in these shipments.

Trace minerals contaminates

Millions of tonnes of metals are produced annually for a wide variety of applications, primarily in manufacturing in the automotive, electronics and aircraft industries.

Few of these applications require a high level of purity.

However, metals used as minerals in animal feed supplements must be very pure as not only are these products going to affect the health of livestock, they are also entering the food chain.

Raw minerals are typically mined or recycled.

Mineral ore deposits are often a mixture of several different inorganic forms and may include several other minerals as well.

Recycled minerals are often reclaimed from electronics and other manufactured goods.

Dioxin is a general term for a large group of fat soluble organo-chlorine compounds – polychlorinated dibenzodioxins and dibenzofurans, about 30 of which are significantly toxic.

Dioxins can potentially be formed whenever organic compounds, chlorine and high temperatures are involved.

Common sources include volcanic eruptions, forest fires, exhaust emissions, incinerators and in the manufacturing of chemicals, pesticides and paints.

Dioxins can also be formed during the processing of inorganic minerals.

Metals, especially copper, can act as catalysts in dioxin formation.

Dioxins are termed 'persistent organic pollutants' because they are very stable, resisting physical and biological breakdown to remain in the environment for long periods.

Dioxins are known teratogens, mutagens and carcinogens in humans and animals.

Dioxin-like polychlorinated biphenyls differ from dioxins in that they are intentionally produced for the manufacture of transformers, inks, plasticisers, lubricants and building materials.

PCBs are present in inorganic trace mineral sources due to the recycling of metal sources such as copper wiring.

At least 70 percent of copper sulfate is produced from renewable sources.

PCBs are also a known carcinogen in humans and animals.

Heavy metals are a concern because they can enter soil, resulting in the contamination of inorganic trace mineral sources and can enter groundwater as a pollutant.

Mercury, lead, cadmium and arsenic can cause neurological signs in livestock such as blindness, anaemia, soft-shelled eggs, kidney and renal damage and sudden death.

A global issue

The use of mined versus recycled minerals has also been debated, however both have had negative implications.

Mined minerals tend to be higher in heavy-metal contamination, and the mining process can cause contamination with dioxins and PCBs.

Dioxins can also be formed during recycling and often materials such as PVC coating are not removed during the process of recycling, which introduces PCB risks.

Dioxins, PCBs and heavy metals are a global issue.

In December 2008, pork in Ireland was found to be tainted with dioxin, resulting in the product being pulled from 24 countries.

In July 2011, Belgian food safety officials found a 138-ton consignment of feed-grade copper sulphate imported from Romania with a higher than permitted presence of dioxin.

Lead-contaminated zinc oxide imported from China found its way into the pig industry in Australia in recent years.

The levels of lead detected in the livers of pigs exceeded allowable limits and the animals were subsequently destroyed.

In January last year, China's State Council publicised a circular on soil pollution that sets out a plan to contain the increasingly severe problem by 2015.

For heavy metals alone, experts estimate the country's pollution results in the loss of 10 million tonnes of grain and the contamination of another 12 million tonnes annually.

What is the risk?

A clear take-home message from these events is that industry quality assurance programs are essential.

And for any quality assurance program, continuous quality improvement must occur for risk management strategies to remain effective.

Building off its Quality Plus mineral quality program, Alltech conducted a survey of mineral sources intended for animal feed in the Asia-Pacific region.

The survey revealed a high prevalence of heavy metal contamination in feedstuffs.

In 2013, a survey of more than 480 samples of various inorganic minerals, premixes, organic minerals and complete feeds from different countries in Asia was carried out.

Lead, arsenic and cadmium were analysed using an inductively coupled plasma optical emission spectrometry at the Alltech China facility.

Results showed contamination from 3-65 percent of samples.

Overall, 19 percent of all samples were contaminated with at least one heavy metal (lead, arsenic and cadmium).

This is consistent with previous results from Alltech's Asia-Pacific heavy metal surveys.

The risk of contamination associated with inorganic minerals is a concern for manufacturers of all mineral supplement forms because inorganic mineral sources are used to manufacture organic mineral products.

Guaranteeing quality and safety

Alltech is the world's largest manufacturer of organic trace minerals (Bioplex and Sel-Plex) for the livestock industry, with five state-of-the-art production facilities around the world.

As the industry leader, Alltech has implemented a quality assurance program to ensure the quality, safety, traceability, and consistency of all its products.

This Q+ mineral quality control program is unique to Bioplex trace minerals and sets the industry standard, enabling Alltech to offer a global quality guarantee to customers using this feed additive in over 128 countries.

Q+ is a positive release program that combines a number of quality control measures, whereby all batches of trace mineral sources and final Bioplex batches are tested for heavy metals, dioxin and PCBs before sale.

The Q+ program represents just one facet of the overall rigorous Alltech Quality System.

Industry-driven safeguards such as these enforced by Alltech are necessary to protect our increasingly global, interdependent food chain.

Besides contamination issues, many producers are turning to organic minerals to limit their impact on the environment.

Growing awareness of the environmental pollution caused by unused trace minerals has led to concern and even new legislation in parts of the world for controlling trace mineral levels in feed and manure.

As stated, quality control has to be at the top of every producer's list when choosing trace minerals.

As a result of past and present food crises, animal feed is an important area that affects the integrity and safety of the food chain.

In addition, legislation concerning the production of feed is getting tougher.

Routine analysis of feed and food ingredients and the assurance of equally high standards of quality and transparency from suppliers will continue to be critical in a global ingredient market to protect the food chain from contaminants such as dioxins, heavy metals and PCBs.

Tara Jarman
Alltech AP Mineral Manager

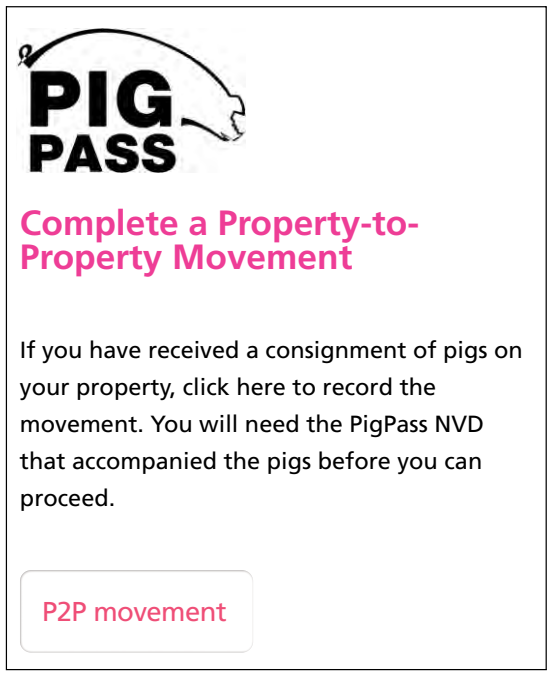
Tara Jarman

Property-to-property movement reporting is now live online

YOU might recall Australian Pork Limited recently advised changes to the traceability rules that will require a property-to-property movement report.

PigPass has been undergoing some improvements and P2P movement recording is now available.

This will specifically affect you when receiving pigs on your property, and APL is now asking all producers to record this movement on the PigPass website.



The screen shot of the PigPass website shows what you can expect when you click on the P2P tab.

It is fantastic that a number of producers have already embraced this movement reporting.

Knowing about these movements is extremely important in the case of a food safety or disease emergency.

Australia is lucky to be free of many diseases that have a serious impact on production overseas.

P2P movement reporting is just one of the steps we can take to ensure our pig herd remains disease free.

When you move pigs onto your property, the sender will provide you with a PigPass National Vendor Declaration.

Upon receipt of this PigPass NVD, you have 48 hours to report the movement to PigPass.

Reporting the movement to PigPass is simple and can be done online by:

1. Logging in to the PigPass website at www.pigpass.com.au
2. Clicking on the P2P movement button.
3. Typing in the serial number of the PigPass NVD provided to you with the pigs and clicking on the lookup button. This will populate information such as the source Property Identification Code.
4. Completing the form by adding the destination PIC, the number of pigs received, the time spent at last residence and entering the date and time when the pigs were moved onto your property.

At present the reporting of these changes is voluntary, but from July 1, 2015, P2P reporting will become mandatory for APIQ✓ certified producers.

Regulators are also likely to begin legislating these requirements.

APL is constantly working on ways to ensure that the pork industry has a robust traceability system, with traceability reporting for saleyards, showgrounds and processors now being progressed.

APL is working directly with processors to develop a simple and effective method for uploading this information straight to PigPass.

Soon APL will also be engaging saleyards and showgrounds to build a facility for movement reporting that is tailored to their needs.

This approach ensures that all pigs on the move can be rapidly traced or contained if there is a disease or food safety emergency.

One of the biggest threats to our current traceability system is producers who are not registered in PigPass and not using PigPass NVDs.

To try to engage these producers, APL is implementing a communication strategy that will improve the website, clarify requirements and support uptake.

This strategy will improve the understanding of the PigPass system and ensure the health of Australia's herd.

In addition to communication with producers not using PigPass, in the coming months all producers can expect more information from APL regarding improvements to PigPass directly, through the media and via the PigPass website.

Without these new PigPass arrangements in place our herd is at risk, but by working together the pork industry can ensure our exotic disease-free status continues.

If you have any questions or would like to know more, please contact the PigPass helpdesk on 1800 001 458.

Laura Phelps
APL Policy Research Officer

Producers have your say

pork QUEENSLAND INC.

President's Perspective

by JOHN COWARD

EVERY year Australian Pork Limited members have the opportunity to be involved in the annual general meeting, which this year is being held in Melbourne from November 18-20.

At the meeting, producers or their delegates listen to reports on industry issues over the past 12 months as well as plans to address industry concerns through strategic and targeted activities identified in the APL Strategic Plans.

Delegates are also asked to comment on future plans, which provides direction and support for APL business plans.

Queensland members are represented through APL delegates and it is important that you provide your delegate (if you are not attending) with your view on past and future APL activities.

Pork Qld Inc. members are also represented, with three PQI directors holding APL delegate or board positions.

The latest APL Strategic Plan can be found on australianpork.com.au and covers activities addressing key issues such as improving animal production performance, the review of the Model Code of Practice for the Welfare of Pigs and the development of new domestic and export markets to mention a few.

PQI is committed to supporting its Queensland members.

There will be specific issues that impact on members' sustainability and we would like to hear from you to ensure we are fully informed on the issues you would like to see a focus on within the plans.

Please contact me on 0407 622 166 before the AGM for more details and information on topics of your concern.

While every Australian producer who slaughters pigs pays the levy, only producers who join APL are actual members.

Just paying the slaughter levy does not make you a member.

If you want your say heard you need to become an APL member.

Details on membership are available on the APL website or by giving me a call.

Brian and Jenn McLean from CHM Alliance, Member for Nanango Deb Frecklington, Agriculture Minister Barnaby Joyce and Swickers general manager Linchon Hawks during the recent visit to Swickers.

Swift trip to Swickers

AGRICULTURE Minister Barnaby Joyce recently visited pork abattoir Swickers in Kingaroy, Queensland, along with Member for Nanango and Assistant Minister to the Premier Deb Frecklington.

Minister Joyce said he had been looking forward to visiting Swickers to talk with pork producers and see first-hand the recently opened processing facility.

"The Australian Government strongly supports the pork industry in Australia – we've got more than 1800 pork farms across this nation and the industry employs over 20,000 people Australia-wide," he said.

"Nine out of 10 Australians eat pork, and each year Australians consume about 25kg of pork per person.

"I believe all Australians can feel proud of the pork industry because it operates responsibly and ethically in the production of nutritious and affordable food."

Minister Joyce said Swickers is a great example of working across the supply chain and value-adding to products to get better returns at the farm gate.

Swickers has been open since 1941 and processes up to 19,000 pigs a week for domestic consumption and export.

The company is the largest employer of staff in the region and this creates prosperity for the town.

However, things weren't always so good.

When CHM Alliance bought out Swickers in 2009 the business was in liquidation following the collapse of part owner Hans Smallgoods.

But Swickers general manager Linchon Hawks said there has been a complete turnaround over the past five years, with the business moving from strength to strength.

During the visit, Minister Joyce asked Mr Hawks what the Government could be doing better to help.

Mr Hawks said regulatory requirements created pressure, in particular their different interpretation in different states, but the biggest threat to Swickers is imports of fresh pork.

The Australian Government's Agricultural Competitiveness Green Paper was recently released, with 25 diverse policy ideas to drive improved profitability and productivity in primary industries and make regional Queensland stronger and more prosperous.

To have your say, please visit agriculturalcompetitiveness.dpmc.gov.au

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100 million reasons for rural R&D innovation

AGRICULTURE Minister Barnaby Joyce recently launched the Government's $100 million rural research and development grants program that aims to deliver profitability and productivity improvements in the agriculture, fisheries and forestry sectors while encouraging more industry and research collaborations.

Minister Joyce said the Rural R&D for Profit program delivers on the Australian Government's election commitment to provide $100 million of additional funding to R&D corporations.

"This program is a practical investment in the future of Australia," he said.

"It will fund nationally co-ordinated, strategic research that delivers real returns at the farm gate.

"Rural R&D for Profit is designed to deliver research that directly improves productivity and profitability across Australian agriculture.

"R&D makes a very significant contribution to growth in agricultural productivity.

"This program provides grants for collaborative research that will lead to better returns for producers and support continued innovation across Australian agriculture.

"Rural R&D for Profit will focus on delivering cutting-edge technologies and making research accessible for primary producers, while better leveraging co-ordination and co-operation between stakeholders."

Under the program, all 15 research and development corporations can apply for funding.

However to be eligible, RDCs must partner with one or more researchers, research agencies, funding bodies, businesses, producer groups or not-for-profit organisations and provide a contribution (cash or cash/in-kind) at least equal to the requested Commonwealth grant funding.

Minister Joyce said this program encourages industry, researchers and private organisations to think outside the box and develop new collaborations that form the basis for ongoing innovation and growth of Australian agriculture and achieve demonstrable benefits for our primary industries.

In round one, applications must address one or more priorities in the following research, development and extension areas:

- Increase the profitability and productivity of primary industries;
- Increase the value of primary products;
- Strengthen on-farm adoption and improve information flows; and
- Strengthen primary producers' ability to adapt to opportunities and threats.

Minister Joyce said a range of issues in Australian agriculture could be managed through this process, such as improvements to wild dog control and better techniques to control parthenium and blackberries using pathogens.

The Department of Agriculture must receive applications for the first round by 11.59pm (AEST) on December 15, 2014.

For more information on the Rural R&D for Profit program, visit agriculture.gov.au/rd4profit

Emma aims to target sow aggression

'Hierarchy formation in group housed sows and management strategies to reduce the impact'

Pork CRC

Emma Greenwood: Pork CRC PhD candidate in Project 1C-103, University of Adelaide

Supervisors: Prof Paul Hughes, Dr Kate Plush and Dr William van Wettere

PORK CRC supported student Emma Greenwood is due to complete the second year of her PhD at the University of Adelaide School of Animal and Veterinary Sciences as part of Pork CRC Project 1C-103, and she focuses on optimising the mixing of late gestational sows.

Pork CRC Program 1 'Reduced confinement of sows and piglets' aims to reduce and ultimately eliminate the need for sow confinement during farrowing, lactation and gestation by developing innovative housing, breeding and suckling systems.

Emma began her PhD after completing a Bachelor of Animal Science and subsequently achieving first-class Honours with a thesis focusing on improving piglet birth weight and survival through maternal hygiene and nutrition in late gestation.

Before joining University of Adelaide, Emma finished a TAFE course on rural animal handling, completing work experience with Aroora Enterprises piggery, which aroused her interest in the pork industry.

Reducing aggression

Emma's Pork CRC supported research focuses on reducing aggression between early gestating sows at the point of mixing.

Aggression is at its highest when hierarchies are being established at mixing and can result in physiological stress responses, which can lead to detrimental effects on sow reproduction and welfare.

The current movement away from individual stalls, driven by changing legislation worldwide, will result in group housing becoming common practice in Australia.

Many positives will accompany this change, but the disadvantage of a rise in group housing is that the regrouping of sows is unavoidable, resulting in an increased incidence of sow on sow aggression.

Aggression in commercial pig production represents a significant threat to sow welfare and the economic efficiency of the breeding herd, as there are costs associated with sow culling (as a result of injury) and reduced sow reproductive output.

Several aggression management techniques have been investigated in the recent past.

These include sedation and boar presence, which only led to a short-term reduction in aggression at mixing.

Other methods such as high space allocation at mixing and same parity mixes have been trialled and these factors look promising when attempting to reduce aggression, though optimal management has yet to be determined.

According to Emma, the objective of future studies should be to isolate the techniques that can be practically managed on commercial farms, with the aim to provide further and conclusive information on optimum mixing management.

This is the focus of Emma's first publication of her PhD in a review article titled 'Hierarchy formation in newly mixed, group housed sows and management strategies aimed at reducing its impact'.

Space pointers

Emma's first experiment of her PhD has been completed and it aimed to determine the effect of space on aggression and stress in early gestating sows at the point of mixing.

It is now known that insufficient floor space increases the incidence of aggressive interactions between sows.

There is clear evidence of a stress response and increased aggression if space allowance is insufficient at mixing, yet the threshold space allowance at which sow welfare is reduced to a level deemed unacceptable is still to be determined.

Providing the animals with more space than they require for the maintenance of normal social behaviours is economically inefficient in intensive systems.

Emma believes research should aim to determine the optimum space allowance that meets animal and farmer requirements.

Interestingly, until Emma's experiment no previous research had looked at the effect of increasing the space allocated at the point of mixing and then reducing it after hierarchical formation.

Emma investigated whether space affected aggression and stress at mixing, using space allocations of 2sq m, 4sq m and 6sq m/sow.

☛ continued P9

Pork CRC PhD candidate Emma Greenwood met with Prof Paul Hughes and Prof Paul Hemsworth at the Pan Pacific Pork Expo 2014.

Big wrap for WAPPA

Cant Comment

by BRENDON CANT

IT has been a couple of years since I've attended a West Australian Pork Producers' Association dinner and what a whopper the 2014 one was.

WAPPA president, the always laconic and sometimes charming Richard Evison of Westpork fame, told me there was north of 100 people in attendance and I can say the room at the South of Perth Yacht Club scrubbed up a treat, with lots of positively pink items dressing the tables.

My spies tell me the inimitable and never retiring Lea Newing had something to do with the occasion and as only Lea can, put her stamp on the night and turned an event into an occasion and one that seemed to be enjoyed by all and sundry.

Such industry dinners in years gone by, admittedly even those MC'd by yours truly, were sometimes overly formal with a guest speaker, but this year's was different.

Aside from a short but eloquent welcome by president Richard, there was just a quick run-through of the evening's formalities (of which there were none really) by industry stalwart Bruce Mullan of the Department of Agriculture and Food, Western Australia, but these days he's working in sheep and wool, not pigs and pork.

I enjoyed my very sociable table, which was a little incognito at the back of the room and I was joined by the likes of Christine Clark of Auspac, Chris Brennan of Milne Agrigroup, Shaun Megson of Boehringer Ingelheim and Amanda Vardanega of MSD Animal Health.

All four of these pig industry characters know how to laugh and amuse, no matter the occasion.

And if the occasion is anything less than amusing, they're sure to make their own fun.

Also at my table was Mark Peebles of premix manufacturer and feed ingredient supplier Lienert Australia, which was acquired by Alltech about a month ago.

A participant in the CRC for High Integrity Australian Pork, Alltech is regarded as a global leader in animal nutrition and has delivered what it terms 'natural solutions' to the Australian pig industry for more than 20 years.

Alltech's research and development is guided by nutrigenomics – focusing on the interaction between nutrition and gene expression, with an overall goal of getting the most out of current genetic potential.

Speaking of Pork CRC reminds me that two stalwarts of the Australian pig industry, Pork CRC CEO Roger Campbell and D'Orsogna managing director Brad Thomason were spotted at WAPPA's industry dinner.

They were seated up front of course and having what appeared to be a good old-fashioned chinwag.

Roger had earlier in the day updated WA pork producers on the latest R&D outcomes and achievements of Pork CRC as part of an annual state-by-state roadshow series.

Brad and D'Orsogna have long supported WAPPA and head a long list of loyal sponsors who continue to back WAPPA and the state's pork producers with sponsorship dollars and in-kind contributions.

Like most producer bodies, WAPPA is not exactly flush with funds, so depends on such corporate support to keep going in a lobbying space cluttered with competitive industries all looking to get their share of desirable government and community attention.

Amanda Vardanaga from MSD Animal Health wondered what she should do with these little pink plastic piggies.

The perfect targets for the pink piggies were to Amanda's left and right, that is the 'flapping' ears of her good mates Chris Brennan from Milne Agrigroup and Sean Megson from Boehringer Ingelheim.

D'Orsogna MD Brad Thomason and Pork CRC CEO Roger Campbell had a chinwag at the WAPPA dinner.

Emma aims to target sow aggression

☛ from P8

On the fourth day after mixing, pens were equalised to 2sq m/sow.

The study demonstrated that those sows allowed high levels of space at mixing fought less than sows in low space after mixing, had shorter aggressive bouts and spent a lesser percentage of time fighting.

When space was equalised, sows from the higher space allowance fought more often and for longer than those from the medium allowance.

Somewhat unexpectedly, cortisol concentrations were significantly lower over the treatment period for sows in the smallest space compared to both other groups.

On introspection, this was most likely due to the increased activity and excitement of exploration allowed to pigs in the larger pens.

Overall, Emma's first study revealed that a greater space allowance reduces aggression between sows at mixing.

A reduction in space after four days heightens aggression in animals allowed higher space beforehand.

She feels the next step should be to assess the time spent in the larger-space mixing pen and to perfect the timing of the change to smaller accommodation so aggression does not increase.

Novel idea

Emma's second study is already under way, examining the effect of novel environments on sow aggression at mixing.

It compares aggression between sows in barren environments against aggression in sows housed with rubber mats (creating barriers), ropes and brightly coloured swinging discs suspended from the roof.

Her hope is that the quantity of the enrichment provided will permit interaction and enjoyment from all animals in the pen, rather than becoming a limited resource to be fought over.

Emma is hopeful that her chosen environmental manipulations will contribute much-needed information to add to the body of knowledge in this area.

You can contact Emma by emailing emma.greenwood@adelaide.edu.au

WAPPA pursues positive pork progress

WEST Australian Pork Producers' Association president Richard Evison has described the past year as one that saw the WA pork industry grow positively, while shifting focus to supply fresh product across Australia.

"Despite the internal challenge of the midyear termination of WAPPA's executive officer, which our executive committee is now addressing with the support of membership, it's been a year that looks likely to positively change the face of WA's pork industry," Mr Evison said after WAPPA's 2014 annual general meeting and industry day at South of Perth Yacht Club on October 17.

"Growth in demand for the niche free range market has seen WA increase its free range herd this year and we expect this to continue next year to where 25 percent of WA's sows will be farmed outdoors.

"This is great news for WA's pork industry, which employs an estimated 1700 full and part-time workers, as it creates further job opportunities and growth here and meets market demand across Australia, but doesn't negatively impact supply into the local WA market."

An estimated $50 million has been invested in housing and production systems during the past five years to meet new guidelines for sow housing and production efficiency.

Mr Evison estimated only 20 percent of sows in WA were kept in gestation stalls, putting WA on track to meet the national industry target of being gestation stall free by 2017.

With the quality and availability of skilled labour in the pig production and processing sectors a constant issue, a significant breakthrough has been achieved through the labour agreements developed by WAPPA with the Department of Immigration and Border Protection.

The labour agreements are now being used to assist the WA industry with recruiting about 80 suitably qualified, job-ready, sponsored overseas workers by 2015.

"Significantly, this labour agreement has now been adopted by Australian Pork Limited and will be rolled out as a national template for all Australian pork producers," Mr Evison said.

Another highlight noted in Mr Evison's report to members and industry was the development of a biogas pilot plant at the Department of Agriculture and Food, Western Australia's Medina Research Station, which has increased awareness of the advantages of covered anaerobic ponds and biogas production and achieved access to a renewable energy resource.

Producers Graeme Dent from Cuballing and Dawson Bradford from Popanyinning were re-elected to WAPPA's executive committee at the AGM, joining incumbents Torben Soerensen (treasurer), Dean Romaniello and Richard Evison.

Speakers at the WAPPA industry day, which was attended by 65 people, included Tim Ahern, Zoetis Australia; Avril Grieve, Elanco Animal Health; Fadi Malek, Global Skilled Employment Services; Darryl D'Souza and Tony Abel from APL; Kim Nairn and Kate Gannon from Portec Veterinary Services; Roger Campbell, Pork CRC; Amy Suckling, Craig Mostyn Group; and Bruce Mullan, DAFWA.

About 130 people later enjoyed WAPPA's annual industry dinner.

www.wappa.com.au

About 130 people enjoyed the West Australian Pork Producers' Association dinner at South of Perth Yacht Club.

After WAPPA's 2014 AGM, executive committee members Dean Romaniello, Torben Soerensen, Richard Evison, Graeme Dent and Dawson Bradford showed they were right behind some of the 2014 WAPPA industry day sponsors.

WAPPA president Richard Evison from Westpork with three of the 2014 WAPPA industry day speakers, Dr Kate Gannon, Portec Veterinary Services; Amy Suckling, Craig Mostyn Group; and Dr Roger Campbell, Pork CRC.

Speakers at WAPPA's industry day included Tim Ahern, Zoetis Australia; Avril Grieve, Elanco Animal Health; and Fadi Malek, Global Skilled Employment Services.

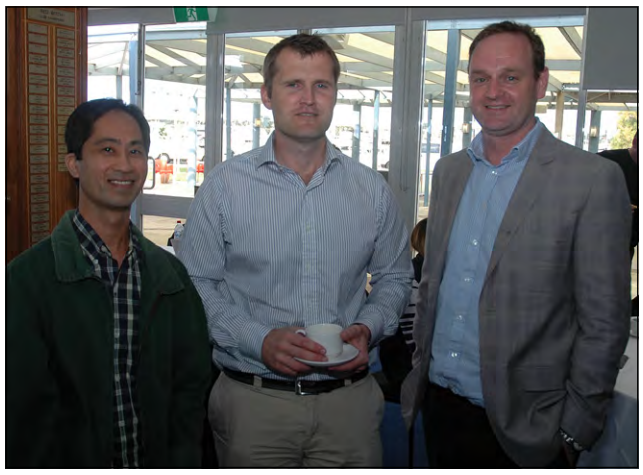
Esperance pork producers Deb and Stephen Hoffrichter of Shark Lake Piggery were significant contributors to the industry day.

Kate Gannon from Portec Veterinary Services, Tony Abel and Darryl D'Souza from APL, and Kim Nairn from Portec spoke on the day.

The dinner at South of Perth Yacht Club saw Mark Peebles, Lienert Australia; Christine Clark, Auspac; and Istvan Bessenyei, Nutreco seated together for a chat.

Dinner for two? David Reu and Gabbrielle Brooke, both of Vaucluse Livestock Equipment & Animal Production Services obviously loved the WAPPA dinner.

Enjoying WAPPA's 2014 dinner at South of Perth Yacht Club were Chris Brennan, Milne Agrigroup; Amanda Vardanega, MSD Animal Health; and Sean Megson, Boehringer Ingelheim.



Allan Tagudin and Torben Soerensen from GD Pork with Tim Ahern from Zoetis Australia.

Roger Campbell and Dennis Mutton, both of Pork CRC and Bruce Mullan of DAFWA enjoyed the WAPPA industry day.

Wannamal pork producers Sharon and Steve Martin took it all in at the industry day.

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Pork CRC project leader profile

■ Pork CRC Project 1C-107: 'Improving behaviour, welfare and commercial performance of group housed sows through development of appropriate selection criteria'

DR Kim Bunter is a project leader in Pork CRC Program 1 'Reduced confinement of sows and piglets' and a senior research fellow in the Animal Genetics and Breeding Unit at the University of New England.

Her current project in Pork CRC Subprogram 1C targets improving behaviour, welfare and commercial performance of group housed sows through development of appropriate selection criteria.

Kim has worked on projects for the Australian pig industry since the early 1990s.

After completing a Bachelor of Rural Science at UNE, she specialised in quantitative genetics at the AGBU, which is Australia's premier specialist group responsible for developing genetic evaluation systems for nearly all major livestock species.

She has been involved in numerous projects since obtaining her Masters in 1995 and PhD in 2002 including:

- Developing mate selection strategies for pig breeding;
- Breeding programs for the South African ostrich industry;
- Detection of quantitative trait loci for feed efficiency (with Sydney University) and gene expression studies for actinobacillus pleuropneumonia in pigs (with CSIRO);
- Validation of genetic parameters for traits used for Breedplan (Australia's beef cattle genetic evaluation system);
- Sire line comparisons for meat quality;
- Use of insulin-like growth factor 1 as a trait in pig breeding programs (with Dr Brian Luxford, Iowa State University and French National Institute for Agricultural Research researchers);
- Development of selection criteria and analytical models for improving reproductive performance in pigs and sheep (used in the development of PIGBLUP and Sheep Genetics genetic evaluation systems);
- Investigating gilt development and feed intake in maternal sow lines (with Dr Craig Lewis);
- Research into breeding programs for disease resistance in Sydney rock oysters; and
- Breeding strategies to reduce calf mortality in extensive northern production systems within Australia through the Beef CRC.

Kim loves diversity in her work and species and is passionate about research that provides information, both genetic and non-genetic, from which the livestock industries can make informed decisions to improve productivity and welfare.

Right sows

Kim's current Pork CRC project, which is conducted in collaboration with breeding companies Rivalea Australia and PIC (US), is investigating developing breeding programs to produce the right sows for group housing systems.

Kim said successful group housing is not just about the right management, facility design and feeding systems, but also the right animals to perform in those systems.

"Sows in group housing systems need to obtain the intended benefits from group housing such as the ability to have social interactions and improved exercise opportunities without detrimental effects, which can arise through unacceptable levels of aggression, competition for resources and stress," she said.

Consequently, techniques to identify selection criteria that indicate whether animals will be more adaptable to group housing should yield both improved welfare for sows and better reproductive performance under group housing.

Part one of this Pork CRC project was to apply new models that account for social genetic effects to the reproductive performance data, which has been collated under group housing by PIC (US).

Unfortunately, an animal with high performance in a group setting may achieve this to the detriment of performance of other animals in the group through negative social effects towards others.

In addition, these social effects can have a heritable component known as social genetic effects, such that related animals are more similar in the social characteristics that affect their pen mates.

This concept has been best illustrated in species that are aggressive and typically raised in groups such as quail, laying hens and fish.

More recently, social genetic effects have been reported for growing pigs and related to undesirable characteristics such as tail biting.

The overall outcome of animals with detrimental social effects is to contribute towards poorer and more variable performance within their groups.

Sociable sows

When sows were individually housed, detrimental social effects were not selected against because sows were not able to interact.

So the question is, are there social genetic effects that influence sow reproductive performance in group housing?

To answer this it was necessary to find unique data that clearly identified which sows were grouped together during gestation for a fully recorded and pedigreed population.

Fortunately, Dr Scott Newman at PIC (US) was proactive and had generated some suitable data, so the work is a collaborative effort between Kim and PIC (US and UK) staff.

Preliminary results from the PIC (US) data indicate the answer to the question is yes.

Genetic evaluation models, which include estimation of social genetic effects, do a better job of producing estimated breeding values for describing reproductive performance in group housing.

This means breeding companies that implement the necessary recording of groups and use these types of models in their genetic evaluation systems have the tools to improve the suitability of selected animals for group housing, thereby improving performance for the commercial clients who buy breeding stock.

This might be through selection based on both better EBVs for additive genetic and social genetic effects, though there is still some work required to demonstrate what specific emphasis should be placed on social-effect EBVs.

It would also be desirable to demonstrate if social-effect EBVs of gestating sows are related to social-effect EBVs, which can be estimated from data recorded earlier on the growing pig prior to selection.

This would also enable selection decisions to be made based on earlier estimates of social genetic effects.

Houdini sows

Part two of this Pork CRC project looked into using a novel technology known as a proximity logger to automatically record interactions between sows within groups.

The intention was to derive patterns of behaviour from the data recorded in these loggers and relate it to video observations to see if we could use electronics to automate the recording of particular sow

☛ continued P15

Pork CRC project leader Dr Kim Bunter.

Aussie Blaster export success

A MAJOR pork producer in South-East Asia has standardised on Aussie Pumps diesel-drive blasters for fast, efficient cleaning of piggery pens.

Not wishing to be named, this enterprise exports more than 1000 live pigs to Singapore every night.

Having used Aussie Pumps high-pressure cleaners for a number of years, the company has now converted the fleet to the Yanmar diesel version to maximise cleaning productivity.

The new blasters combine a high-flow, high-pressure triplex pump and the reliable, fuel-efficient Yanmar diesel engine in a robust and ergonomic galvanised frame.

The Aussie Scud 351 high-flow blaster is designed specifically for cleaning pig pens and stockyards.

It delivers flow rates to 21 l/pm and an effective working pressure of up to 3400psi when used with a turbo lance.

This extra flow washes away animal excrement from concrete surfaces, effectively flushing the waste.

Prime power for the machine is a 10hp Yanmar diesel engine with electric start and a recoil start backup.

Yanmar was chosen because its engines are superbly matched to the Bertolini pump and supported with an international dealer network for service and spares.

Aussie Pumps product manager Hamish Lorenz said, "Our Scuds have proved extremely popular with piggery farmers because their huge flow delivers a wash and flush action."

"We've ramped up production to meet increasing demand from international livestock producers."

The Scud blaster is built tough in a well-designed frame trolley with four 13" steel wheels with pneumatic tyres.

Using the principle of 'design follows not only function but also emotion' the Scud unit is attractive in appearance as well as robust and designed to be bulletproof too.

Safety is a big issue and Aussie Pumps has made sure the machine complies with the new safety pressure cleaner standards for Class A machines.

The Scud frame lends itself to safety, with virtually no sharp points or edges on the machine.

The unique design also allows for the easy installation of hose reels for added safety and increased hose longevity.

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Production of the Yanmar-powered Aussie Scud 351 high-pressure blaster has been ramped up to meet demand from overseas livestock producers.

Telling porkies about imported fish

A PERTH business and its owner recently pleaded guilty to deliberately circumventing Australia's biosecurity laws, receiving fines and a custodial sentence at the District Court of Western Australia.

Department of Agriculture Compliance Division first assistant secretary Raelene Vivian said there is no tolerance for importers who deliberately break the law.

"The company, Vihentico Pty Ltd has received a $52,500 fine for illegally importing 26,040 packets of Songlin Brand fish maw from Taiwan between July 2007 and July 2010," she said.

"Vihentico's owner James Huynh received a suspended eight-month custodial sentence and a $5000 good behaviour bond.

"The fish maw was deliberately concealed among other products and fraudulently invoiced as Mr Huynh knew it would be prohibited in Australia.

"Fish maw is traditionally made from the swim bladders of fish, but this brand of the product contains pork skin and not a single trace of fish.

"Australia does not allow pork products to be imported from Taiwan as biosecurity risks have not been assessed and risk management measures are not in place."

Ms Vivian said one of the risks associated with pork products is foot and mouth disease, which should it become established in the country, has been estimated to cost Australia about $50 billion over a decade.

"Taiwan had several cases of FMD during the period that the illegal importing took place," she said.

"The Department of Agriculture provides training courses to help importers comply with Australian laws and when they are ignored, we take decisive action.

"Australia has a robust biosecurity system in place to safeguard the nation from many of the serious pests and diseases present in other parts of the world.

"We work off-shore, at the border and on-shore to manage biosecurity risks, and any threat to the integrity of Australia's biosecurity or quarantine process is vigorously pursued."

Project leader profile

from P14

behaviours.

Unfortunately there were a few teething problems that were rather hard to overcome, such as the Houdini-like capabilities of some females to get rid of their own loggers or those of their pen mates.

However, the loggers successfully recorded contacts between individual sows when they stayed on.

Sow behaviours can also be observed using video images but this is a time consuming and costly way to obtain useful data and can't be performed for large numbers of animals, which is always required for genetic evaluation purposes.

If we could find easily recorded traits indicative of undesirable behaviours that affect other sows, such traits are potentially heritable and suitable selection criteria could then be included in breeding programs.

Flighty sows

Part three of the Pork CRC project further extended work in this area, using outcomes from previous studies.

In this part we are looking more closely at traits already linked to behaviour or performance in other studies, but which have not been linked with sow welfare or performance.

For example, lesion counts from fighting recorded 24 hours post-mixing on growing pigs are heritable in other studies and might be linked to ongoing sow behaviours or performance.

Similarly, flight time, which measures how long it takes sows to move between two time points, might indicate calmer sows that are less fearful of people and handling.

For instance, finishers with slow flight times have higher growth rates.

In addition to these types of traits, we're also doing further recording of things such as sow locomotion and lameness at different time points, injuries and subsequent reproductive outcomes to further evaluate performance under group housing.

To contact Kim, email kbunter2@une.edu.au