Pigbytes Newsletter

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Roseworthy SA Pig Course 2013

Paul Hughes PIRSA-SARDI

The annual January Pig course which is run at Roseworthy in South Australia will be on again in 2013. The course is free of charge, so it's a good opportunity for people who are either new to the pig industry or who wish to upgrade or update their pig skills and knowledge.

In the past this has included APL employees, state government advisors, employees of feed and drug companies and, of course, both piggery owners and piggery workers. The only costs payable by the participant are travel, accommodation and food.

This year the Pork CRC will fund travel and accommodation for 20 places at the course for people working in the pig industry. The places are secured in the order applications are received – so don't delay applying.

The one piece of information most people want to know is whether or not their background or educational status affects their ability to either attend the course or keep up with its content.

My answer is that the course is attended by a diverse mix of undergraduate students, postgraduate students (APL and the Pork CRC require postgraduates students they fund to attend) and industry people – hence, I teach it assuming no prior knowledge of either science or pig production. Because of this there is no need to have a tertiary education background or pig experience.

The course is run over 2 weeks from 14th to 25th January 2013 and covers everything related to pork production with tours of the Roseworthy pig facility, Sabor AI station, Laucke feed mill Sheoake Log, a commercial piggery and Big River Pork Abattoir. Contact: Paul.Hughes@sa.gov.au

Keeping the Feed Flowing from Silos

Jayce Morgan

Bridging of feed in silos which leads to out-of-feed events in the pig shed can be a real dampener on pig performance not to mention the frustration for staff in trying to re-establish feed flow. Bridging of substances in silos is not restricted to agriculture - the processed food industry and even mining industries can experience flow problems from silos and there have been many attempts to find a solution that will fit a range of silos and substance types.

Late last year APL funded a short term project to test a silo insert called Sure-Flo. This insert is a small inverted plastic cone which is fitted into the cone of the silo near the outlet. The Sure-Flo inserts were fitted to 6 silos on a grower unit operated by Cameron Pastoral Company.

Figure 1: The Sure-Flo insert with Geoff Fisher discussing the insert with Greg Mills (arm only visible).

There were 2 main areas of interest for this trial. The first was particle size and flow from silos – it is estimated that there is a 1.3% increase in efficiency of gain for every 100 microns decrease in particle size. A 1.3% saving on a silo dispensing 10 tons per week represents a saving of $2700 per year if feed is $400/t. Particle size and the range of particle sizes in a mix can have a big effect on flow.

The other area of interest was the prospect of removing the need to climb silos for stocktaking. The normal flow of a feed out of a silo is in a funnel pattern with the centre feed leaving the silo first and the feed around the edges leaving the silo last. This also means that the feed first into the silo will be the last to leave the silo.

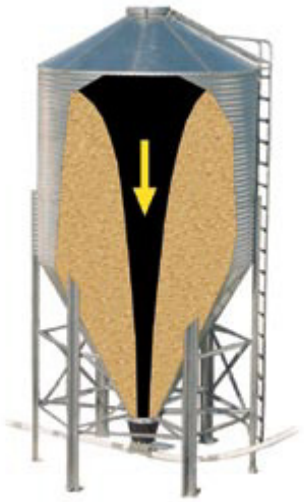

Figure 2: Diagrammatic representation of funnel flow (from Automated Production Systems Brochure).

The role of the Sure-Flo insert was supposed to result in the feed around the edges exiting the silo first and the mass of feed moving down the silo with a more level surface. This would mean that the first feed into the silo would be the first feed to exit the silo and make stocktaking easier as a gadget could be rigged to measure the amount of feed in the silo from the ground and then no-one would have to climb the silo.

Figure 3: Diagrammatic representation of mass flow following insertion of the Sure-Flo silo insert in the neck of the silo cone (from Automated Production Systems Brochure).

Three different mixes passed through each silo with each batch of pigs – starter, weaner, and grower feed mix.

Average particle size for the mixes ranged from 515 microns for a starter mix, 640 microns for a weaner mix and 721 microns for a grower mix. There was no recorded feed flow difference between silos fitted with the Sure-Flo insert and those without.

Figure 4: Sure-Flo fitted in the silo cone – view from top silo hatch.

The Sure-Flo did alter feed flow out of the silo but not in the way that was expected. Feed was slumped up one side of the silo and the reason for this was unclear.

Figure 5: The feed was slumped to one side of the cone suggesting one side was emptying faster than the other.

It is possible this effect is caused by the feed line's action taking feed from the bottom of the silo; it could be due to the fact that the inserts were not completely in the neck of the cone (which is recommended) – these inserts sat a bit above this area.

The farm has kept the inserts in the 6 silos and still has noted no difference in silo flow. Six months after the trial ended the farm used a particularly 'sticky' batch of feed and difficulties were experienced in all silos – those with inserts and those without.

Figure 6: The silos and their feed lines.

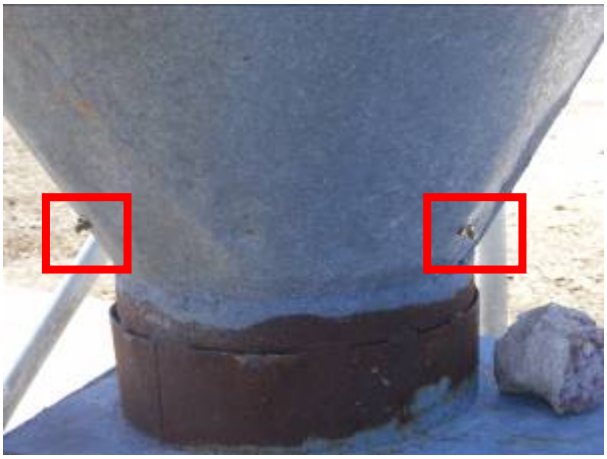

Figure 7: The bolts in the red squares indicate the bottom of the Sure-Flo insert – so not down in the collar as is recommended.

After the project finished I contacted the engineers at Automated Product Systems in the US who list the Sure-Flo on their website. Their comments follow:

- The slope of the hoppers in most if not all of our field tests are on 60˚ bulk feed tanks. I am not sure what the result will be on a 40˚ hopper.

- The hopper interior walls look to be rough and dented (captions on the pictures point to this as well). The Sure-Flo cannot fix a bad situation. For proper feed flow the wall should be smooth and clean.
- I am not sure of the mounting position of the Sure-Flo in the bulk feed tanks. It is hard to get good perspective from the photos. All of our testing was done on BFTs that have a 16" hopper collar. The size of the collar and the location of the Sure-Flo may have affected the testing as well.

I would like to thank Cameron's Wilga Ridge staff for their assistance in particular Alan Hudson and Geoff Fisher. Thank you to APL for the project funding.

An afternoon with Flemming Thorup

Trish Holyoake

Approximately 40 people attended an afternoon presentation in October by Dr Flemming Thorup from the Pig Research Centre, Copenhagen. Flemming spoke on "Achieving a high litter size and a high piglet survival".

The average pig farmer in Denmark currently weans 27 pigs per sow per year, and this number has increased by about a pig every 3 years. Whilst average weaning weights are lower than many farms in Australia (7 kg liveweight at 24 days of age), this reproductive performance is certainly impressive! So how do they get such big litters???

- Have a large gene pool. There are over 1 million sows in Denmark.
- Danbred sows' selection criteria include "liveborn at 5 days of age".
- Use crossbred fertile females as F1s
- Select the largest piglets in the litter as F1s
- Exploit heterosis by mating the F1 gilt (Yorkshire x Landrace) with a third breed boar (Duroc)
- Mate gilts on their second oestrus, no matter the age
- Remember to flush feed (3kg+) at least 2 weeks before mating

Once these large litters are born, tips to keep them alive include:

- Conduct body condition scoring on sows during gestation to ensure they are in optimal condition to farrow. Over-fat or thin sows are more prone to reduced milk production.
- Ensure each piglet has a functional teat. About 75% of parity 1 and 2 sows in Denmark have more than 13 functional teats.
- Focus attention on piglets for the first 3 days after birth. Ensure piglets get colostrum by placing them at the sows' udder after birth.
- Even out litters after 12 hours with the birth sow to ensure sufficient colostrum intake.
- Runts left on sows with large litters have a high chance of dying. Best to foster these off to a "runt collecting sow" (Parity 2 sows are best) to improve their survival.

Certificate III in Agriculture Graduation

Trish Holyoake

Thirty one individuals will graduate with a Certificate III in Agriculture (Pig Production) from Goulburn Ovens TAFE (GoTAFE) on 23rd November. This training and assessment has been undertaken by Trish Holyoake and Tony Fahy at the DPI Pig Health and Research Unit with training auspiced through GoTAFE.

This training is undertaken to assist stockpersons to meet the requirements of the Victorian Livestock Management Act to be "suitably qualified" to care for pigs. Classroom training is undertaken either at DPI offices in Epsom or on-farm, depending on the number of trainees, with practical assessment conducted on-farm. The 16 units of competency include those of the Pork Industry Stockperson Skill Set such as "Move and handle pigs", "Administer medication to livestock", "Implement animal health control programs" and "Euthanase livestock".

DPI and GoTAFE are major training providers for piggery stockpersons in Australia. We currently have over 30 individuals enrolled in Certificate III in Agriculture (Pig Production) from all farming types and with varying experience. We see that stockperson competency is vital to good animal health and welfare, protecting the good reputation

of our industry. For more information on training opportunities offered, go to http://www.dpi.vic.gov.au/agriculture/animals-and-livestock/pigs/stockperson-training-for-the-pig-industry.

Pigs in Space landing at GoTAFE soon

Trish Holyoake

The Goulburn Ovens Institute of TAFE (GOTAFE) and the Victorian DPI Pigs in Space project will develop electronic media (e-learning) to support and train- the-trainers for workplace training designed to educate workers in the Victorian pig industry.

The project grant provides $42,200 to launch the e-learning strategy which will establish the online training module. The pig industry is undergoing significant growth and it is vital that employers are able to retain a skilled workforce.

The benefits from the e-learning training include:

- Quality trainers with highly developed skills;
- Students in remote locations can participate in training with no restrictions on class size;
- Attendance to class training on e-learning will minimise lost time from workplace and assist productivity;
- The use of visual training material photos /graphs is a highly effective tool to maintain trainees' concentration and attention.

The DPI sees the development of e-learning as a means of supporting engagement with remote and regional communities. There are about 150 applications each year for new pig tattoos, most of which are small-scale operators. The development of on-line training courses will support biosecurity efforts within the DPI as well as promote positive welfare outcomes.

For more information please contact Jeanette Swain (GOTAFE) on (03) 57604576 or Trish Holyoake (DPI) on (03) 5430 4412.

Surviving Summer Infertility

Trish Holyoake

With spring upon us now, "seasonal infertility" is just around the corner. **Below is a checklist of guidelines for surviving summer infertility.**

1. Plan to increase gilt and sow numbers to satisfy farrowing targets. Increase the mating program by 10-15% over the anticipated summer infertility period. However, beware of the trap of overcrowding animals, which will exacerbate the problem.

2. Provide shade at all times so sows can lie out of direct sunlight.

3. Ensure drip coolers, sprays and shutters are functional to reduce heat stress and maximise ventilation. Sows are most susceptible to heat stress at farrowing, so make sure that cooling is available particularly for farrowing and lactating sows when temperatures exceed their upper critical temperature (22C).

4. For outdoor sows, ensure there are sufficient wallows for sows to cool themselves. Shaded wallows should be provided in temperature extremes.

5. Ensure water intake is cool (< 20C) and is not restricted. Lactating sows will drink up to 60L water per day in summer.

6. Adjust gestation-feeding strategies. Focus on feeding thin sows extra feed in early gestation. Monitor sows' body condition throughout gestation but it is usually safe to step down feed after the first 4 weeks post-mating to reduce feed costs.

7. Maximise lactation intakes by feeding in the cooler parts of the day, and feeding more frequently (at least 2-3 times a day).

8. Minimise overcrowding, as this will exacerbate the summer infertility problem. Ideally provide at least 2 m^2 for each sow.

9. Review diet specifications, especially the lysine levels (1-1.25%) in the lactation diet.

10. Increase the frequency and duration of boar contact to optimise the stimulation of oestrus and puberty (for pre-pubertal gilts 20 mins/day for 7 days a week).

11. Conduct heat stimulation and detection in the cooler times of the day.

12. Increase efforts to diagnose pregnancy. Focus on 3-week oestrus detection to detect

conception failures. During seasonal infertility the ratio of regular to irregular returns (25 – 35 days) increases. Consider implementing routine pregnancy diagnosis at around 30 days post-mating to pick up these irregular returns.

13. Pheromones produced by the boar help overcome the effects of summer infertility. Where possible, maintain boar contact with sows for the first 6 weeks of pregnancy.

14. Use PG600® or Regulate® to synchronize non-cycling gilts/stimulate oestrus in non-cycling gilts to make up shortfalls in oestrus females.

15. Don't cull sows at weaning, but rather re-mate them where possible and cull if you have met the 35-day pregnancy test target.

New Requirements for space allowances for pigs in Queensland

Melanie Latter Biosecurity Queensland

New requirements for pigs housed indoors come into effect in Queensland in September 2012.

These new requirements specify minimum dimensions for stalls and crates, as well as minimum floor space for pigs kept in pens, and were taken from the Model Code of Practice for the Welfare of Animals - Pigs (3rd edition).

It was agreed nationally that these minimum space requirements would become compulsory 5 years after endorsement of the Code.

In Queensland, these requirements have been made compulsory under the *Animal Care and Protection Regulation 2002* (ACPR) and are therefore now enforceable by law.

Anyone who keeps pigs in Queensland (including those kept for production, display, or as pets) should be familiar with the compulsory requirements for pigs under the ACPR.

These requirements are part of a nationally consistent approach to the development, implementation and enforcement of animal welfare standards which aim to improve the health and welfare of pigs in all states and territories.

A summary of requirements about stalls, crates and pens under the legislation follows:

- Sows may be kept in farrowing crates a maximum of six weeks per reproduction cycle under normal circumstances.
- Pigs kept in stalls must be able to stand, stretch, lie and access feed and water without obstructions. These requirements ensure stalls are of a size that allows adequate room to move.
- Stalls and farrowing crates must now also meet minimum dimensions specified in the legislation.
- Pens used to keep individual breeding stock, group-housed gilts and sows, weaners, growers and finishers must also provide the minimum floor space per pig specified in the legislation.

Future changes:

From 2017, a new standard will ensure sows may only be confined in gestation stalls for the first six weeks of any pregnancy. This standard will be in place for producers who do not voluntarily phase out gestation stall use by 2017.

Getting more information:

There are also compulsory standards relating to competency of stockpersons, the use of electric prodders and castration that came into effect in 2010. For further details about the new welfare standards visit the Queensland Department of Agriculture, Fisheries and Forestry (DAFF) website at http://www.dpi.qld.gov.au/4790_19706.htm

You may view the legislation by visiting www.legislation.qld.gov.au and accessing the *Animal Care and Protection Regulation 2002.*

You can also contact the DAFF Customer Information Centre on 13 25 23 for assistance

Significant Disease Investigations

Trish Holyoake

On-going surveillance ensures the early detection of animal diseases that might impact on trade, regional or national productivity, public health, or biodiversity.

The National Significant Disease Investigation (NSDI) Program, managed by Animal Health Australia, commenced in June 2009 and supports investigation of approximately 350 cases across Australia annually.

The program is funded from livestock industry and government subscriptions and aims to boost Australia's capacity for the early detection of emerging and emergency animal diseases by recruiting greater participation of veterinary practitioners in disease investigations.

The NSDI Program subsidises veterinary practitioners who investigate and report on outbreaks of significant disease incidents in livestock and wildlife.

Subsidies of $325 (remote location investigations) and $225 (local investigations) are available for an initial field and clinical investigation, and also for a follow-up investigation (maximum subsidy $650). Larger payments are available in some states.

In return, the practitioner must provide a case report of the investigation to their state/territory department of primary industries. The NSDI Program also subsidises the department cost of laboratory analyses.

(Note: This information is from the AHA website – subsidy arrangements differ between states. Contact the state coordinators for more information – listed on the AHA link.)

Eligible veterinary practitioners are registered, non-government veterinarians engaged in clinical veterinary medicine, including veterinary practitioners in wildlife parks.

To be considered 'significant', one or more of the following criteria must be met for the disease event:

1. An unusual or atypical manifestation of disease, including high morbidity, mortality and/or rate of spread;
2. An initial investigation fails to establish a diagnosis including when veterinary treatment dose not produce the expected response or;
3. There are findings suggesting a possible effect on trade, public health, biodiversity, or the viability of a farm, industry or region, excluding events where there is a genuine suspicion of an emergency animal disease.
4. Where there is a genuine suspicion of an exotic or emergency animal disease, state departments of primary industries will lead the disease investigation and cover the cost of the investigation.

For more information about the national SDI program and other state contacts go to http://www.animalhealthaustralia.com.au/programs/disease-surveillance/national-significant-disease-investigation-program/

In Victoria all SDI submissions must be approved in consultation with the local DPI District Veterinary Officer (DVO) and the Senior Veterinary Officer Pigs (Trish Holyoake) **prior to the submission of laboratory samples.** Specimens for laboratory testing must be submitted to the DPI Pig Health and Research Unit, located at Bendigo (tel: 5430 4569, email: diagnosticslab.bendigo@dpi.vic.gov.au).

All laboratory submissions must be accompanied with an interim Record of Disease Event (RODE) form or the submitting veterinary practice will be responsible for the cost of diagnostic testing.

A final typewritten RODE is to be provided promptly to the approving DVO following the completion of the investigation. The diagnostic tests will be determined by the DPI, with any additional testing requested by the submitter to be paid by the submitter.

For more information about the DPI subsidies for significant disease investigations and reporting, contact DPI Animal Health staff at your nearest DPI office, Trish Holyoake or the Victorian DPI Customer Service Centre on 136 186.

Some Links of Interest

Jayce Morgan

See what you feel – an assisted farrowing guide

http://nationalhogfarmer.com/reproduction/see-what-you-feel-assisted-farrowing-guide#slide-2-field_images-13891

Feeding for 30

http://www.feedingfor30.com/

Practical Ideas to address high feed and production costs from the Pork Checkoff team

http://www.pork.org/filelibrary/FeedWeb1210.pdf

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Pigbytes is a newsletter from the pig industry teams at NSW DPI, Victoria DPI, and Queensland DAFF

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