NSW GOVERNMENT Department of Primary Industries
State Government Victoria Department of Primary Industries

Pigbytes Newsletter

Issue 10, August 2011

In this issue

New Look PigBytes

Jayce Morgan

The PigBytes newsletter is now a collaborative effort by NSW and Victorian DPI extension staff. The newsletter will still be produced 4 times per year – January, April, July and October.

The aim is to provide more timely technical articles with reminders and updates about legislation requirements and changes. We will still be providing links to websites of interest and a new section called 'Questions from the farm' where farmer questions will be answered.

PigBytes will be produced in an email format with a pdf file on the NSW DPI website. Farmers without email or computer access can apply to have the pdf version posted to them free of charge in NSW and Victoria. Farmers with email and computer access can subscribe or unsubscribe at will. The email version of PigBytes will contain summaries of articles in the pdf file with links to each of the articles. You will be able to skim the email and read only those articles of interest to you – great for those with too little time.

Mice Plagues and EMC virus

Amanda Lee

The recent mice plagues have seen a rise in the number of cases of encephalomyocarditis virus (EMCV) infection in pigs. Rodents are the principal reservoirs of this virus and pigs are the domestic animal most susceptible to clinical disease by EMCV infection.

Infected rodents excrete the virus in their faeces and urine. The most important source of infection for pigs appears to be contaminated feed, water, and bedding. Feed contaminated by infected carcasses may contain high doses of the virus.

EMCV infection in young pigs is characterized most commonly by acute disease with sudden deaths due to heart failure. Infection in grower pigs is usually subclinical. In breeding females, clinical signs vary from no obvious illness to severe reproductive problems including abortions, increased numbers of stillborns, and increased mummified foetuses.

There is no treatment, but mortality may be minimized by avoiding stress and excitement of the pigs at risk. Preventative measures include:

- Rodent control baiting program
- Avoid introduction of pigs from previously infected farms
- Animals dying of the disease should be promptly and sanitarily disposed
- Remove weed/grass cover around sheds
- Eliminate mouse access to feed and water sources as much as possible
- Basic rules of sanitation and hygiene should be applied
- 0.5 ppm chlorine added to water supply inactivates the virus

It is important to remember that rodents also pose a public health risk of **Leptospirosis**. Farmers should cover up cuts as infection enters the body via open wounds coming into contact with rodent urine. The symptoms of Leptospirosis include fever, headache, chills, vomiting, jaundice, anaemia, and sometimes a rash. People with any of these symptoms should contact their doctor.

Erysipelas on the increase with mouse plague

Trish Holyoake

We are also noticing some farms have an increased number of grower pigs becoming sick and/or dying due to Erysipelas. The bacteria that cause this disease are carried by rodents, especially mice. It is likely that the mouse plague is contributing to the recent increase in erysipelas cases in growing pigs.

Erysipelas can also occur when pigs are “stressed”, so the cold, draughty winter weather may also be contributing to the observed increase in disease. Maternally-derived protection from vaccinated sows is unlikely to protect growing pigs past 6-8 weeks of age – so this observed increase in disease in growers is not linked to breeder vaccine failure.

If erysipelas is a problem:

- Strategic medication will help. Talk with your veterinarian. She may also recommend that you vaccinate your progeny if the problem is not responding to medication.
- Ensure your pigs are not over-crowded, have a clean, dry place to sleep and their housing is free of drafts. In short, minimize any stresses.
- **Increase rodent control measures. Beware of warfarin poisoning in farm dogs.**
- Improve hygiene - erysipelas bacteria can survive in soil or dung for 6 months or more.

Slow to start – slow to finish

Trish Holyoake

Pigs that have low vitality at birth grow slower and are at higher risk of dying than their more vital siblings. More “vital” piglets are faster to access a teat and suck than low-vitality piglets. They attempt to breathe and move within 15 seconds of being born and have higher rectal temperature 24 hours after birth than low-vitality piglets.

Low vitality piglets have a lower birth weight, are late in the birth order and are born from higher parity (slower farrowing) sows than high vitality piglets.

Low vitality pigs are likely to succumb from being overlain by the sow or to fade away and die from lack of nourishment. It is important that producers minimise pre-weaning losses as high pre-weaning mortalities impact on the welfare and profitability of the farm and on the morale of staff.

Each piglet that dies at birth results in a loss of approximately $50 to the producer.

Mortality rates are now checked as part of the PigCare audit process for farms seeking accreditation with the Australian Pig Industry Quality Assurance Program (APIQ✓®). A pre-weaning mortality of more than 10% requires investigation and intervention.

Below are some tips to help these low vitality pigs survive:

- Supervise sows at farrowing and assist if inter-pig interval exceeds 30 minutes (older sows) or 45 minutes (younger sows). Pay particular attention to gilts, sows with a history of stillbirths and older

parity sows. Cull any sow with a history of >30% stillbirths in a litter.

- Provide two creep heaters at the time of farrowing – one at the rear of the sow and one at the side/front. The rear heater can be removed after 24-48 hrs.

- Check that each piglet has access to a functional teat. Cross foster or split suckle piglets if there are not enough teats.

- Small piglets may require extra energy in the first 24 hrs to survive. Talk with your veterinarian about nutritional supplements for newborn piglets.

Guarding against respiratory disease in winter

Trish Holyoake

With the onset of cold weather, we typically close our sheds up in an attempt to keep pigs warm. The downside of reducing ventilation is that it increases the concentrations of airborne contaminants – and therefore increases the risk of respiratory diseases such as pneumonia in pigs.

Several Australian studies have predicted the cost of pneumonia to range from $55-71 per sow per year, depending on the severity. Using AUSPIG growth simulation modelling, it has been estimated that for every 10% of affected lung tissue (equal to a PHMS lung score of approximately 6), average daily gain drops by 37 g/day and FCE decreases by 2.5%.

A decrease in growth rate of 10 g/day has been estimated to cost $30 per sow per year.

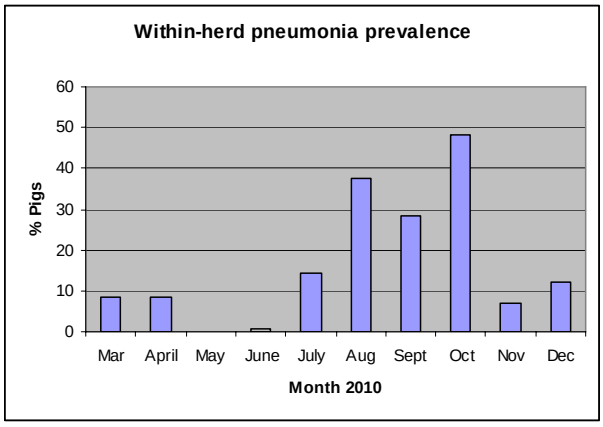


Table 1:The prevalence of pneumonia within pig herds. Data from PHMS inspections of 6036 pigs (53 herds) undertaken at Victorian abattoirs during 2010.

Table 1 demonstrates how the incidence of respiratory disease increase in finisher pigs grown out over winter and slaughtered over the winter/spring months compared to other months of the year (data from Patrick Daniels, Manager Pig Health Monitoring Scheme (PHMS).

Most respiratory disease in pigs in Australia is started by *Mycoplasma hyopneumoniae* – a bacterium that is small enough to travel more than 3 km between farms. *M. hyopneumoniae* infection increases pigs' susceptibility to other respiratory pathogens – including *Streptococcus suis*, *Haemophilus parasuis* (Glassers Disease) and *Pasteurella multocida*. The economic impact of pneumonia initiated by *M. hyopneumoniae* includes:

- reduced growth rates
- reduced feed efficiency
- reduced carcass value due to greater variability in carcass weight and backfat
- losses due to sale of poor-doing pigs at pre-market weights
- increased mortality due to secondary infections
- increased medication and vaccination costs for on-going pneumonia control and treatment of affected animals.

Suggestions to minimize the impact of respiratory disease in your pigs over winter include:

1. Don't over-heat farrowing houses (although the staff will love it!). The comfortable temperature for lactating sows is 16 – 22°C. Ensure that piglets' creep areas are 30-35°C and are draft-free.

2. Weaners should be kept at temperatures between 22°C and 28°C (higher for newly-weaned pigs. Grower room temperatures should be 18-20°C. Monitor the ambient room temperature daily with max/min thermometers and talk with your veterinarian or the DPI about using dataloggers to double-check.

3. Open blinds 3-4 x daily for 5 minutes on cold days to "flush" out stale air.

4. If possible, operate rooms all in/all out (AIAO), with cleaning in between. A study at Purdue University demonstrated an improvement in growth rate of 12% and feed conversion efficiency of 7% when rooms were operated AIAO instead of continuous flow (CF). The proportion of pigs with lung lesions at slaughter

decreased from 94% to 52% when converted from CF to AIAO.

5. Vaccinate pigs against *M. hyopneumoniae.* Talk to your veterinarian about the correct timing and type of vaccine (2-shot versus 1-shot).

6. Target the correct stocking rate (0.6m^2/pig) and stocking density (2.6m^3/pig) for grower pigs.

7. Insulate rooves and, where appropriate, walls - R value >1.25.

8. Install automatic-controllers for ridge and sidewall ventilation openings with temperature sensors on both sides of the building independently.

9. Roof pitch 15° and ridge vent for buildings more than 10 m wide.

10. Ventilation openings: each side wall, min. 10% floor area / ridge vent width, min. 10% floor area

11. Insulated, drop side shutters for weaner and farrowing sheds.

12. If respiratory disease is an on-going problem, consider reducing group size within an airspace. Risk of respiratory disease is greater if there are more than 200 pigs in an airspace.

13. Consider using PHMS abattoir monitoring to check the health of your pigs. Contact PHMS Manager, Mr Patrick Daniels on 03 54304570 to arrange an inspection of your pigs. (*Available at Victorian abattoirs only)*

Questions from the farm – What causes "Humpy Back" pigs?

Jayce Morgan

A NSW pig farmer had a couple of humpy backed pigs appear in the herd. The farmer asked their vet who suggested the cause was genetic, but the farmer was still curious and sent me some photos. Here is what I've discovered…..

Humpy Back in pigs is a condition that has been reported around the world in most pig breeds and crosses and in indoor and outdoor herds. It can be seen as a marked dip in the back behind the shoulders and/or as a hump in the mid lumbar region.

Figure 1: Pig with a "humpy back"

The technical terms used to describe the condition are Kyphosis and Lordosis. Kyphosis refers to marked upwards curvature of the lumbar spine, while Lordosis refers to a dip downwards or hollow back.

Figure 2: Weaner pig with "humpy back" seen at saleyard

Curvature of the spine in pigs has been reported in 2 forms – the humpy back pig which looks very uncomfortable and sometimes grotesque, and pigs that look normal when alive but when the carcase is split in half there is obvious spinal curvature.

Humpy back pigs have been reported in all age groups ranging from still born piglet with congenital defect to finisher pigs and gilts. Some pigs have been reported to be normal at birth and then subsequently develop the condition. It has also been reported that some pigs return to normal as if cured.

Reported incidence of the condition in breeds has ranged from a low 0.2% to "outbreak" conditions of 30-35%.

Cause of the condition has been attributed to a range of factors including genetics, spine malformation, dietary deficiencies, diseases such as osteoarthritis and osteochondrosis in

association with PCV2 or PRRS, pneumonia, erysipelas, stress and blunt trauma.

Figure 3: Boar noticed on a farm a few years ago – appeared to have dip behind shoulder evident by wrinkled skin in that area.

It is reported to be more common in males than females. Some reports have growth rates unaffected while others report mortalities and reduced performance as a result of the condition.

So what can you do if it appears in your herd?

- Check your records – are the pigs all by the same sire or from the one litter? If so this could indicate genetics is the cause.
- Consult with your genetics supplier - they need to know if the problem becomes extensive.
- Check the diets – are they correctly formulated for good growth and development? If diets are faulty there can be impacts on the development of the pig and rickets was suspect in one article.
- Check your vaccination program – is there an outbreak of erysipelas or pneumonia or worse?
- If the numbers are causing you concerns consult your veterinarian. If it is suspected that there is an underlying disease which may be a contributing factor, do post mortem investigations and send samples for diagnosis.

References:

Penny RHC and Walters JR *A "humpy-backed" syndrome of pigs* Vet Ann 1986 26:128-135.

Done SH and Gresham ACJ *Lordosis and Kyphosis ("humpy back") in pigs* Pig Journal 1998:134-141.

Done SH, Potter RA, Courtenay A and Peissel K., *Lordosis and Kyphosis ("humpy back")in pigs: A second type of the condition associated with hemi vertebrae.* Pig Journal 1999 44:148-153

Nielsen LWD, Høgedal P, Arnbjerg J, and Jensen HE., *Juvenile Kyphosis in pigs A spontaneous model of Scheurmann's kyphosis.* APMIS 2005 113:702-7.

Holl JW, Rohrer GA, Shackelford SD, Wheeler TL and Koohmaraie M., *Estimates of genetic parameters for kyphosis in two crossbred swine populations* Journal of Animal Science 2008 86:1765-1769

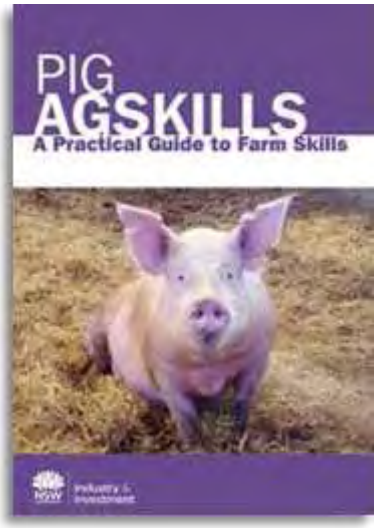
Straw B, Bates R and May G., *Anatomical abnormalities in a group of finishing pigs:prevalence and pig performance* Journal of Swine Health and Production 2009;17(1)28-31.

Lindholm-Perry AK, Rohrer GA, Kuehn LA, Keele JW, Holl JW, shackelford SD, Wheeler TL and Nonneman DJ., *Genomic regions associated with kyphosis in swine* BMC Genetics 2010 11:112

Mattsson P., *Prevalence of congenital defects in Swedish Hampshire, Landrace and Yorkshire pig breeds and opinions on their prevalence in Swedish commercial herds* Masters Thesis Swedish University of Agricultural Sciences Uppsala 2011.

Training Resource Available

Jayce Morgan



Pig AgSkills has been written in the same format as all the other AgSkills series. It is a 'how-to' guide for most of the basic skills required to keep pigs. It was written for the new stockperson or people wishing to add to their skill set. It includes step by step description and photographs.

Some of the topics covered include:

- General safety precautions
- Animal welfare
- Quality assurance

- Move and load pigs
- Clip milk teeth and tails of piglets
- Trim boar tusks
- Castrate pigs
- Nose ring pigs
- Stomach tubing piglets
- Condition score pigs
- Recognise, intervention and caring for compromised pigs
- Techniques for injecting pigs
- Captive bolt gun euthanasia of pigs
- Recognise oestrus in sows
- Artificially inseminate sows
- Pregnancy diagnosis in sows
- Legal considerations for a pig farm
- What is a safe work method statement?
- Checklists: Prepare for the vet, Herd health program and Risk management of equipment

Pig AgSkills costs $26.00 and may be purchased from the Tocal Bookshop call 1800 025 520 or online at the following web address: http://www.shop.nsw.gov.au/pubdetails.jsp?externalCode=B737

Coming Events

NSW Farmers Pork Group has a meeting on September 14 in Young NSW at the Young Golf Club. The program starts at 5pm with talks by Andrew Spencer APL on proposed levy increase, Tony Edwards on factors that restrict pig performance, Janine Price and Kathleen Plowman on the Environmental Guidelines for Outdoor piggeries and an APIQ✓® update. There is also a dinner speaker – Owen Finegan CEO Snowy Hydro SouthCare. **If you wish to attend, please contact Emily Kearns ph 02 8251 1825.**

A Group Sow Housing Workshop is being planned for October 13th in Forbes NSW. More information will be forthcoming when details are finalized. Contact Alan Sharrock Ph 02 6851 1100.

NSW DPI Pig Industry Group

Jayce Morgan
Livestock Officer 02 6763 1257

Greg Mills
Industry Development..... 02 6750 6312

Ian Kruger
Environmental Engineer 02 6763 1272

Amanda Lee
Technical Specialist Pigs……02 4640 6308

Tim Burfitt
Manager Intensive Livestock Industries Development 02 6391 3729

Victorian DPI Pig Industry Group

Dr Trish Holyoake
Senior Veterinary Officer - Pigs..... 03 54304412

Dr Tony Fahy
Manager Pig Health & Research Unit 03 54304595

Patrick Daniel
Manager Pig Health Monitoring Service (PHMS) 03 54304570

Pigbytes is a newsletter from the pig industry team at NSW and Victorian DPI.

Editor:
Jayce Morgan
jayce.morgan@nsw.dpi.gov.au

To subscribe to an email version of this newsletter email the editor, or subscribe on the website.

http://www.dpi.nsw.gov.au/newsletters/pigbytes

ISSN [1836-974X]