A newsletter for pork producers

PigBytes

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Mice numbers are increasing

Regina Fogarty

Recent months have seen significant mouse plagues across farming areas of Queensland, New South Wales and Victoria. It pays to review management strategies to ensure they do not cause problems in piggeries, either from damage to fixtures and fittings, or from fires resulting from damage to electrical wiring, or by impacting on pig health or human health, as some of the diseases they are associated with, are zoonotic. .

In Australia, we often see a rise in the number of cases of encephalomyocarditis virus (EMCV) infection in pigs during mice plagues. 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 stillborn, and increased mummified foetuses.

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

The spread of leptospirosis, salmonellosis, swine dysentery, toxoplasmosis and erysipelas are associated with rodents. They can play a significant role in spreading disease throughout a piggery via their droppings, urine, feet, saliva, blood and, of course, if they are eaten by pigs. Leptospirosis is seen as a cause of reproductive failure (commonly abortions) in pigs, but it also poses a significant public health risk. In most human cases Leptospires enter the body when rodent urine comes in contact with broken skin, cuts or wounds. The disease causes fever, headache, chills, vomiting, jaundice, anaemia and sometimes a rash. If these symptoms occur – contact your doctor.

Figure 1: It doesn't take much feed to satisfy a single mouse but in plagues they can cause a lot of wasted and contaminated feed and spread disease.

Source: pixabay.com

Rodent Control

Rodenticides alone will not keep rodents under control. Effective rodent management is only achieved by reducing food and water supply, reducing shelter, and ongoing monitoring and

surveillance. This is best achieved with an integrated approach made up of five basic steps:

1. Prevention & Hygiene
2. Monitoring
3. Non-chemical solutions
4. Chemical Solutions-Baiting
5. On-going monitoring

Australian Pork Limited (APL) has recently reviewed the issue and produced an Industry Rodenticide Stewardship Plan, which covers in great detail how to implement control program. It includes effective non-chemical strategies and the chemical approaches available to Australian pig producers. The Plan is available on the APL website

Be vigilant – there has already been one confirmed diagnosis of EMCV in NSW and another suspected.

Can I buy a pig off you?

Regina Fogarty

Interest in pig ownership is high, being driven by an expectation of them as pets, or to become part of a self-sufficiency farming lifestyle.

In January 2021, the ABS reported that migration from the capital cities to rural areas as a result of the COVID 19 pandemic saw the largest net quarterly move from the capitals to the regions on record. This was in fact, more than double the average observed over the last 10 years.

Biosecurity is an important issue in all types of pig production/ownership. All producers have a role to play in ensuring the integrity and exotic disease-free status of the Australian pork industry.

In fact, many states have introduced biosecurity legislation that includes a clear expectation that all people must have a basic level of knowledge about the biosecurity risks they might encounter in their normal work and recreational activities.

Everyone has a general biosecurity duty to consider how their actions, or lack of appropriate action, could negatively impact on another person, businesses, an animal or the environment. Reasonable actions and preventative measures must be taken to prevent or minimise impacts.

If you are selling pigs to another producer:

- check that they understand their obligations when owning or allowing pigs on their property. People new to the industry are unlikely to understand the legal requirements around pig ownership.
- remind them that anyone with a pig on their property must have a Property Identification Code or PIC, which are issued by the state agricultural agencies. The PIC is a unique identifier for land used for keeping livestock. For more information on pig identification, visit: *pigpass.com.au* and/or the agricultural agency in your state. There they can obtain information on PICs, PigPass and the need to identify any pigs sold from their farm with an accredited Tattoo or National Livestock Identification System (NLIS) pig tag. There are some differences between the requirements in states, so it pays to check.
- let them know what they can feed pigs and advise on the risks caused by swill feeding, including the devastating diseases of foot and mouth disease and African swine fever. Advise that swill feeding is illegal with heavy penalties
- advise about the other biosecurity precautions against infectious animal disease; for example keeping visitors, particularly any just returned from overseas away from the pigs, no meat scraps to be fed to pigs, ensuring the pigs are kept separate from feral pigs etc
- make sure that you provide them with a PigPass NVD for the sale and urge them to register for PigPass and report the movement back to their property. Pigs less than 25kg bodyweight must be identified with an NLIS pig ear tag; and pigs greater than 25kg in bodyweight will need to be identified with your tattoo brand or NLIS pig ear tag.

It is also an opportunity to

- direct them to some useful websites, for example Australian Pork Limited, state government agencies, PigBytes etc
- and it is probably a really good idea to show them how big pigs grow, many people's expectations relate to miniature pigs

As a producer selling a pig you are in a unique position to provide trusted information to someone who may have very limited understanding of pigs and the pork industry. It is an important opportunity to ensure that everyone working with pigs understands their role in safeguarding our pig herds.

Contact numbers for enquiries about PICs

NSW – 1300 795 299

QLD – 123 523

SA – 1800 654 688

TAS – 1300 368 550

VIC – 1800 678 779

WA – 1300 926 547

Figure 2: Examples of waste food that is classed as prohibited pig feed or swill – any human food waste product that contains or has been in contact with meat.

Source: NSW DPI Responsible use and disposal of food waste.

Swill

Swill is any food waste that includes, or has been in contact with meat, bone, meat product or some dairy products such as soft cheese. So, in most cases, food scraps from the kitchen or from restaurants are swill. Cooked or raw – it is still swill and illegal to feed to pigs in Australia.

Brucellosis and Moving pigs into NSW

Jayce Morgan

Brucella suis (*B. suis*) usually infects pigs but is a zoonotic disease and can also infect humans and dogs. The infection is widespread among feral pig populations in Queensland and is now endemic among feral pig populations in northern NSW. The extent of spread of *B. suis* into other regions of NSW is unknown.

Feral pigs are the usual source of infection for people, domestic pigs and dogs, particularly when there has been contact with the tissues and body fluids of an infected pig, for example, blood, urine, semen, uterine discharges and aborted foetuses.

Uncommonly, bacteria can be aerosolised, inhaled and cause disease, such as in laboratory workers who work with *B. suis* cultures; or during butchering of infected pigs. The infection is rarely transmitted person to person.

There are no restrictions on the movement of pigs into NSW provided the pigs are branded or tagged and accompanied by a PigPass NVD in accordance with NLIS pigs' regulations.

Producers purchasing breeding stock should adhere to sound biosecurity practices:

- Purchase pigs from high herd-health status herds
- Request veterinary health statement/ inspection for pigs before transport
- Quarantine new pigs from the pig herd for two to four weeks before mixing with your herd.

Brucella suis is a notifiable disease and should be reported to the **Emergency Animal Disease Watch hotline 1800 675 888**. NSW producers may also contact their Local Land Services 1300 795 299.

For information about Brucellosis in humans contact your local Health Department. NSW Health has a human brucellosis control guideline.

For more information about Brucella suis in dogs read Brucellosis(brucella suis) in dogs.

There is also information on the NSW DPI website for hunters – Be a responsible pig dogger.

It is illegal to keep, transport or breed feral pigs.

Planning to transport pigs?

Regina Fogarty

Pigs are pretty good travellers, but transporting pigs introduces some stresses on the animals that need to be avoided or minimised. There are a number of considerations that need to be undertaken prior to any journey.

These considerations include;

- the length of the journey;
- risks of hot or cold temperature stress;
- UV radiation and sun protection;
- stocking rates;
- issues with mixing pigs of different sizes;
- considerations when loading boars or transporting pregnant sows;

- watering requirements; and
- fitness of the individual animals to be loaded.

It is unacceptable to transport pigs that are sick, injured or suffering. These animals require immediate action at their current location.

There are specific references to transporting livestock, including pigs in the animal welfare and livestock transport legislation in Australia. There are nationally agreed standards that provide a basis for consistent legislation and enforcement across Australia and provide guidance for all people responsible for livestock during transport. Those standards have been incorporated into relevant welfare legislation in each state.

The pig industry has developed an excellent guidance document **Is It Fit for the Intended Journey?**

Figure 3: Cover photo of the document "Is it fit for the intended journey?

Source: APL website

This document replaces a previous guide and covers issues to minimise stress, including:

- preparation for transport;
- loading areas and pig behaviour;
- weather conditions, including a heat stress index that highlights danger and emergency conditions;
- appropriate loading densities;
- journey times, spell and watering requirements.
- selection of pigs for transport and clarifies which pigs are and are not fit for the journey. This section describes a range of conditions provides information on how to assess them.

The guide also provides a good summary on the requirements for a PigPass National Vendor Declaration (NVD) and a comprehensive checklist for producers and transporters.

Resilience – what is it?

Jayce Morgan

I was in a book shop over the holiday period and a book called 'Finding Resilience – change and uncertainty in nature and society' by Brian Walker caught my eye. I found the book a great reminder of the interconnectedness of all the elements of the environments/ecosystems and social systems in which we operate.

The term resilience is widely used in many disciplines such as agriculture, ecology, urban development and personal philosophy to name a few. However, Brian suggests that 'resilience' has many different meanings or interpretations and risks becoming jargon.

There were three main misconceptions pertaining to resilience that were identified:

- Resilience is not about 'bouncing back' rather "*it is the ability to absorb a disturbance and, in the process, re-organise so that the system (whatever it is) stays much the same kind of system: not exactly, but functioning in the same way, retaining its identity. It doesn't go back to just how it was. It "learns" from the disturbance…"* It's a capacity to adapt.

- An idea that resilience is always good. "*Resilience is neither good nor bad. There are lots of examples of very undesirable yet very resilient systems: inner city slums, landscapes that have become salinized, …"* Resilience is a property of a system which may need to be reduced to achieve desirable change.

- Confusing resilience with resistance to change. "*change, and probing the boundaries of resilience, is necessary for maintaining and building resilience. Overly protecting a system, trying to prevent change and keep things constant, reduces resilience."* Complex systems have thresholds after which unintended or unplanned for consequences eventuate. Resilience is developing the ability to change where a threshold is reached to increase the 'safe operating space' of the system; although, crossing a threshold is not always a negative thing – it may allow change to a more desirable state. *"In essence, it's about learning how to change in order not to be changed."*

Elements of resilience

If the fundamental characteristic of resilience is how much a system can change yet still be the

same system functioning the same way, then what are the elements of the system that enable this?

Some suggestions in the text included:

- The ability to change and re-organise – how are the important parts of your system connected within your system – what effect does a change in one area have on the other areas of the system? Unexpected secondary effects can cause systems to cross thresholds and cause change in different ways.

- Scale of focus within the system – focussing on "*the resilience 'of' something 'to' something*" could make the system more resilient in a particular way but might reduce resilience in other ways – within the farm, or within the community, or within the ecosystem, or within the industry. Vertically integrated systems are very efficient but the current Covid experience has revealed a certain brittleness within some areas of these systems.

- Response diversity – not putting all your eggs in one basket. "*very often the loss of response diversity isn't noticed until it is too late."* Reliance on one crop or method of production.

- Having reserves – finances, seed banks, memory and experience – diaries and documentation could prove invaluable especially when reviewing recent events such as drought or flood providing comparisons to previous events or recording how things are changing from previous events. Records allow investigation, diagnosis and development of an action or strategy.

- Being able to respond quickly – too many checks and balances reduces nimbleness and resilience

- Degree of connectivity – complex systems connected in all ways are vulnerable if something bad enters – computer virus, disease, fire – can all spread rapidly creating much damage and test resources, while too little connectedness slows down response times and ability for change due to lack of knowledge and resources. Connections are both internal and external. Some degree of modularity within a system allows for localised control of threats; while open systems to external connections can be more resilient due to greater exposure to new information and ideas, new genetics or methods of operation and greater awareness of impending threats.

- High levels of social capital requiring high levels of trust, strong social networks and good leadership – *"a support system of trusted positive people and you helping and being responsible for others."*

Expect surprise

"Do whatever you can to learn about your system, spread risks and diversify, but know that you are never going to get it all right so expect and prepare for surprise."

What is right now may not be right in the future. Radical change, transformational change to a different kind of system is also part of being resilient.

Reference

"Finding resilience – Change and uncertainty in nature and society" by Brian Walker 2019 CSIRO publishing Australia and New Zealand, CABI throughout rest of the world ISBN 9781789241594.

NSW Coastal Harvestable Rights Review

NSW DPIE

Harvestable rights currently allow rural landholders in coastal regions to collect 10% of the average annual regional rainfall run-off from their property and store it in farm dams up to a certain size. They can do this without needing a water access licence, water supply work approval or water use approval.

This review aims to determine whether greater access to water for agricultural ventures could be allowed, while ensuring enough water is available for downstream water users and the environment.

To help answer this question, the NSW Department of Planning, Industry and Environment (NSW DPIE) commissioned hydrological modelling of changes in 10 case study areas.

The modelling assessed the likely impacts of different harvestable rights limits on downstream river flows and water availability for downstream users and the environment.

This review also considers possible effects on water trading, water pricing and charges, and identified the main industries that might be affected by increased harvestable rights.

The studies completed for this review show that uniformly increasing the harvestable rights limits is likely to have very different effects in different

catchments. Some areas would see small effects, while there would be larger effects in others.

Increased harvestable rights would help some individuals and industries but may adversely affect other water users who rely on water entitlements or industries that depend on flow events for good water quality and ecosystem function.

The public consultation and submission period of the Coastal Harvestable Rights Review will run from Monday 8th February until Monday 5th April 2021.

Review documents including the HARC modelling report can be found on the NSW Department of Planning, Industry and Environment website.

The Public Consultation and more information page include information on a Have Your Say survey and where to send submissions. There are also two one-hour drop in sessions at Bega Thursday 25th February; and Coffs Harbour Wednesday 3rd March 2021.

There are two webinar sessions planned for Monday 1st March and Thursday 4th March. You must register for all these events if you wish to attend. Public Consultation Sessions.

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