

A newsletter for pork producers



PigBytes

Issue 28 February 2016

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Does Biosecurity have an image problem?

Jayce Morgan NSW DPI

Over the years in my role I have noticed a range of attitudes to farm biosecurity – from the very strict adherent to the very blasé.

Recently I have seen comment that describes Australia's biosecurity rules as "notoriously strict" and overheard someone say that they don't believe in all that "biosecurity stuff".

Then there are other community sectors that see biosecurity as something farmers hide behind to cloak their farming practices in secrecy.

Does the problem lie in the practices that form good biosecurity or is it a problem of understanding what biosecurity really means and what it represents?

Australian farmers produce some of the best and safest food in the world. Australia is also free of many pests and diseases of plants and animals that occur in other countries. We can thank our biosecurity protocols for this good fortune.

Thankfully most Australians appreciate our wonderful food products with [Foodmagazine](#) reporting a Roy Morgan Research finding that in 2015 90% of people were more likely to buy products that are made or grown in Australia up from 85% in 2013.

So what is biosecurity? And why should you believe in all that "biosecurity stuff"?

Biosecurity is basically risk management. It refers to the hygiene and disease prevention practices that keep you and your animals healthy.

Prevention is better than cure and there are many simple things that can be done to keep a pig herd healthy.

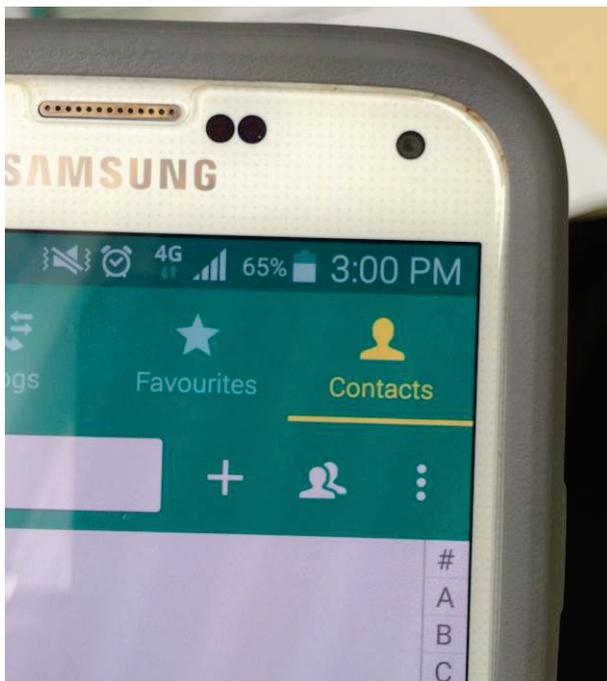
Mostly these are everyday actions which when put together can form a biosecurity management plan.

1. Hygiene – washing hands, removing boots before entering the house, wearing overalls, wearing gloves, washing clothes, cleaning feeders and silos between batches of feed, controlling rodents etc. These are all biosecurity practices that are common everyday activities.
2. Providing good quality feed and shelter so animals are not sabotaged by poor attention to detail. Knowing and obeying the swill feeding (prohibited substances) legislation when it comes to feeding pigs.
3. Knowing that the main vectors of spread of diseases are other pigs and people.
4. Recognising and treating illness or injury, removing the sick or injured from the rest of the herd to a hospital pen for more care and attention. Seeking veterinary assistance for

situations or illness that is outside your experience.

5. Planning and recording - developing a herd health plan for daily management of the stock; listing who to call in emergency situations; recording treatments with chemicals or antibiotics so WHP (withhold period) rules are obeyed; recording visitors and stock movements.
6. Requesting visitors to meet you at the office.
7. Boundaries – keeping stock from wandering, keeping strays and feral animals away from your stock, keeping healthy animals away from sick animals, quarantine and observe regularly new stock and those of uncertain health status.

Figure 1: Remember to add important phone numbers to your phone contacts list. These would include your vet and the Emergency Disease Hotline 1800 675 888.



Source: Jayce Morgan

All of the “biosecurity stuff” is part of good management and much is probably already part of your normal daily routine.

Organising this into a Biosecurity Plan for your farm is your way of recognising the value of biosecurity and your contribution to the great quality of Australian food.

Talk to your vet or use the [National Farm Biosecurity Manual for Pork Production](#) to develop your biosecurity plan.

That ‘biosecurity stuff’ helps keep your business profitable and resilient; and helps to keep consumer confidence in Australian produce.

Biosecurity management in NSW – have your say

Media contact: Simone Catorall 6391 3686 NSW DPI

4th January 2016

Landowners, community and industry are encouraged to have their say on how biosecurity risks are managed in NSW, as consultation gets underway surrounding the regulations to support the new Biosecurity Act 2015.

The Department of Primary Industries (DPI) Deputy Director General, Bruce Christie, said the Biosecurity Act 2015 provides an opportunity to review how biosecurity risks are managed in NSW.

“Biosecurity protects our \$12 billion primary industries sector, our food supply, our native flora and fauna and our infrastructure and assets from adverse impacts of animal and plant pests, diseases and weeds,” said Mr Christie.

“The Act aims to minimise these threats while simultaneously reducing red tape surrounding its management.

“However, before the Biosecurity Act 2015 commences supporting regulations need to be developed.

“This initial consultation phase will provide an opportunity for us to review how biosecurity risks are managed and work together to develop a simple but solid management system.

“We are calling for feedback on how best to manage these risks so that we can ensure the regulations we develop are flexible and responsive to them, while also meeting business, environmental and community expectations.

“Dedicated materials and discussion papers are now available online and we welcome comment and feedback from landowners, community and industry.”

Topics include aquatic biosecurity, animal biosecurity, plant biosecurity, stock foods, fertilisers and chemical residue, weeds, animal pests, certification and auditing.

“Biosecurity can often be taken for granted, however it’s vital for the health, wellbeing and prosperity of everyone in NSW,” said Mr Christie.

“Biosecurity is a shared responsibility and together we can protect NSW’s strong economy, safe

healthy food supply and unique natural environment.”

The closing date for initial feedback on the papers is Friday 12 February 2016 while there will be further ongoing consultation over the next 12 months as the regulations are developed.

For more information visit www.dpi.nsw.gov.au/biosecurityact

Improving the performance of the newly weaned pig

Sara Willis

Queensland Department of Agriculture and Fisheries

With the pig price and feed cost currently in the producers favour, it provides an opportunity to relax a little with reduced pressure from banks and finance sources.

It's also an ideal time to look at production methods and consider opportunities to improve, still further, profit margins.

Compared with our competitors many Australian producers can be a bit laid back about data collection and analysis.

As a result management decisions are frequently made without sound information to support the conclusion reached.

The APL Measure to Manage (M2M) program developed by Sara Willis, Department of Agriculture and Fisheries (DAF), John Riley JCR Associates International and Brenton Hosking; provides an opportunity for owners and managers of production units to benchmark their performance against best practice and secure the long-term viability of their businesses.

The program, which includes simple Excel recording sheets, is targeted at units with both detailed performance records and those units where record keeping might not be as detailed as intended.

The simple, easy-to-use program recognises four profit centres within the business, namely the breeder herd, the weaner herd, the grower herd and the milling and mixing enterprise.

The program dissects the production system into these four key areas so that reasons for sub-optimal performance in each area or profit centre can be identified. A number of producers use the spreadsheet rather than a complex recording program.

On many Australian pork production businesses, management decisions relating to the weaner herd are made on gut feeling and knee jerk reaction

because very little accurate information is recorded for that part of the business.

In addition, little if any industry standards are published for weaner herd performance making bench marking of business performance against industry key performance indicators difficult.

In the period from weaning at an average weight of 6 kg to 30 kg live weight the feed used per kg of live weight produced (FCR) should not exceed 1.6:1 and the target for average daily gain is 520g/day. In the period from weaning at an average weight of 6 kg to 20 kg, 1.4: 1 would be a realistic target for FCR and 440g/day for average daily gain.

The performance of the weaned pig can be improved by a clear understanding of the needs of the newly weaned piglet including:

- nutritional
 - change in diet type (sows' milk to diet based on grain/plant and animal protein)
 - changes in diet form and presentation
- physical
 - housing (temperature), feeder and water locations
- social
 - mixing and moving pigs, separation from the sow

Nutrition

Newly weaned pigs require about 300 g of dry feed per day, during the first week post-weaning to maintain their pre-weaning growth rate.

Actual feed intake, however, rarely exceeds 200 g per day and in most cases, an average feed intake of 150 g per day is considered the best case scenario.

Bruininx et al (2002) demonstrated that creep feeding shortened the time between weaning and the first feed eaten after weaning and enhanced feed intake and growth rate during day 0-8 after weaning.

Ideally, newly weaned pigs should be fed regularly (e.g., 4-6 times per day for the first 3-4 days after weaning, reducing to 2-3 times a day by the end of the first week), however this will depend on the feeder type used.

Feeding several times a day will reduce the risk of access to rancid feed which can result in scours and digestive problems.

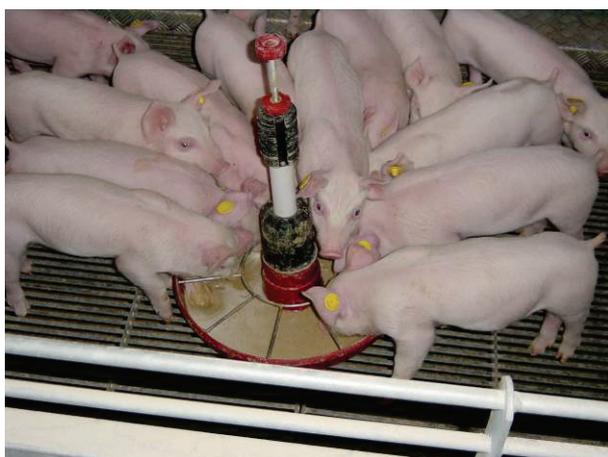
Supplying round, plastic feeders in the first 5-7 days after weaning and feeding 3-5 times per day will help to stimulate feed intake.

An important feature of post weaning feeding is that pigs can eat in groups, perhaps even family groups, and observe their new pen mates while they eat.

Post-weaning feed intake can also be increased by spreading a small quantity of feed on sleeping mats. This practice encourages pigs to consume some solid feed as early as day 1 post-weaning.

Also keeping the lights on for up to 16 hours in the first 3-4 days not only helps pigs familiarise with their new environment, but can also stimulate feeding behaviour.

Figure 2: Pigs learning to eat as a group.



Source: Sara Willis

Preferably, runt pigs and at risk pigs should be penned separately and started on gruel feeding immediately after weaning.

In addition, a special pen should be assigned for fall back pigs that usually appear during the first two weeks post-weaning. Pigs should receive gruel no more than three times per day; otherwise, they fail to eat dry feed, which should be offered *ad libitum* in feeders.

Feeding gruel for 3-5 days is usually enough for most piglets to recover and associate dry feed with nourishment. A gradual change from gruel to an all-dry diet is recommended so gruel consistency must be gradually thickened to allow pigs to adapt to dry diets.

For the first 2-3 days post weaning, the gruel should be a 50:50 mix of feed and liquid milk replacer (or water). The mix should then be gradually thickened (70:30), to make sure the piglets adapt to the dry feed.

Pigs should receive only enough gruel so that all is consumed in a single feeding in about 20 minutes. At least one feeder for every 10 piglets is recommended to ensure sufficient consumption of gruel by all pigs.

Good hygiene is a very important ingredient in successful gruel feeding programmes. Ideally the gruel should be fed in long troughs for the first week post weaning allowing 100mm per pig.

During the first week post-weaning, 50% of the feeder pan should be covered with feed to ensure that pigs are attracted to the feeder.

After the pigs become more accustomed to the location of the feed and their feeding behaviour adjusts, the amount of feed in the pan should be decreased to approximately 30% of pan coverage to reduce feed wastage.

Pigs should be observed to ensure they have found the water and are beginning to develop feeding behaviour.

Once the pigs have adapted to the feeder, regular feeder adjustment is necessary. Starter diets are the most expensive diets, and feed wastage reduces profit. Check that moistened feed from moisture and saliva doesn't restrict the flow of feed into the pan.

In general and on average, an extra 1 kg of body weight out of the nursery (i.e., transition from weaner to grower) results in an extra 2.5 kg of body weight at slaughter or a reduction of 2-3 days to reach the same slaughter weight.

Housing

The newly weaned pig requires a warm, dry draught-free environment. Immediately following weaning, feed intake of the pig is reduced when removed from the sow. The climatic temperature required by the pig is influenced by the pigs feed intake. With feed intake reduced, climatic temperature must be increased above what the piglet was experiencing in the farrowing shed whilst on the sow.

Table 1: Temperature recommendations for weaner pigs in a range of production systems.

Floor type	Straw bedded	Solid insulated concrete	Fully slatted
Pig weight	Temperature		
6kg wean	27	28	30
6kg day1	26	27	29
8kg	24	26	28
10kg	21	23	25
15kg	19	20	23
20kg	15	17	21

For the 6 kg weaner an environmental temperature of 30°C for the first 48-72 hours would be beneficial reducing to 28°C as feed intake increases.

Once the weaner is established the environmental temperatures can be reduced by a couple of degrees per week until the weaner is 9-10 weeks of age. However, if the building is draughty, environmental temperatures need to be increased.

On many units, lamps or gas heaters are used to improve the conditions in the weaner accommodation.

However, on slatted floors, the pigs do not get the full benefit of the heat source due to the fact that warm air rises, and is replaced by cold air from below the slats, which results in a draught.

It is strongly recommended that the area of slats under the heater is covered by a rubber mat.

It is also important to minimise the fluctuation in temperature over the 24 hour period.

Research in Holland showed that when weaners were subjected to a temperature of 28°C +/- 4°C, growth rate was significantly lower than when the weaners were kept at 28°C with a 24 hour fluctuation of just 1°C. The poorer performance was due to a 10% reduction in feed intake which reduced growth rate.

The social environment provided for the newly weaned pig, including stocking density, feeder space and access to drinkers, influences performance.

Performance inhibitors commonly seen during farm visits are insufficient feeder space, drinkers that the pigs cannot reach and water bowls and feeders that are full of faeces.

Water is frequently described as the forgotten nutrient. On many units the statement is true as weaned pigs struggle to satisfy their needs (Table 2) due to poor flow rate and limited access to watering points.

Table 2: Water requirements of weaner pigs

	Water requirements (l/day)	Height of nipple drinker (m)	Water flow rate (l/min)
First stage weaner	0.6	0.30	0.6
Second stage weaner	1.0	0.46	1.0

The October 2015 edition of PigBytes has more information on water supply for the weaner pig.

The Measure to Manage program (M2M) available from APL provides a simple method of assessing the performance of the profit centres in your business.

Measuring the performance of the weaner stage and applying the M2M recommended best practices will have a significant effect on the bottom line.

More information

For more information, contact Department of Agriculture and Fisheries senior extension officer Sara Willis

Phone 07 4688 1214

Email: sara.willis@daf.qld.gov.au

Contact us: 13 25 23.

The Importance of Paddock Rotation

Jayce Morgan NSW DPI

In any livestock enterprise paddock rotation is vital to preserve the health and wellbeing of the livestock and the environment. But this is especially true for outdoor pigs.

There are 3 main areas of the operation that are affected by poor paddock management:

- Environment
- Pig health
- Amenity or appearance

Amenity is a term used in planning and is defined as 'the pleasant or normally satisfactory aspects of a location which contribute to its overall character and the enjoyment of residents'.

This is usually combined with the environmental effects but the specifics of sight, odour, noise, dust and lighting form the main content of neighbor complaints.

Environmental aspects include but are not restricted to:

- The nutrient loading and hotspots in the soil from pig faeces and spilled feed
- The physical changes resulting from rooting and wallows
- The soil degradation from compaction and loss of ground cover
- Extra traffic from stock feed and pig movements to abattoirs

- Amenity impacts

The **pig health** aspect of poor paddock management is the direct effect on the pig from a lack of good paddock management.

Soil is a porous surface and when combined with organic matter provides refugia for various bacteria, viruses and internal parasites.

While it is true that sunlight and the UV component is a good sterilizer it cannot kill all worm eggs or bacterial spores.

Over time these can build up and become a danger to your pigs – pigs new to your farm and young pigs in particular.

Rotating pigs to a new paddock and renovating the previous paddock allows you to manage the health risks, reduce the environmental effects of pig production and help to keep you on the good side of your neighbors.

Figure 3: Remember pigs depend on you the stockperson for their health and well-being



Source: Jayce Morgan

Important considerations

To establish a paddock rotation you need somewhere clean to rotate the pigs.

Many people already with pigs or those beginning in pigs think about the total land area they own and the number of pigs that might hold.

In reality the planning thinking should include:

- The length of rotation – how long is your planned non-pig or resting phase? For example a 3-year rotation means you only have one third of your available land for pigs.

From a pig perspective that means no pigs for 2 years in some paddocks if you have a 3-year rotation.

For soil nutrient management, the length of time on a paddock or area needs to be determined by the number of pigs, the rotation length and resting/cropping phase (non-pig phase).

[Equations and calculators have been developed to assist you working this out.](#)

- Buffer zones from neighbors and waterways will restrict available land for pigs when combined with the rotation.
- Pigs have a distinct dunging habit – between the feeders, waterers and shelters.

Day to day management of paddocks is needed to avoid hotspot buildup of nutrients. This is best achieved through rotations within the paddock boundaries via movement of feed and water points and pig shelters.

- Paddock renovation and management of the paddocks without pigs usually requires crop options or hay production and these could become a lucrative sideline as well as being the means to manage the soil nutrients following pigs.

Just growing pasture after a pig phase is unfortunately a poor removal of excess nutrients.

Australian Pork Limited's Environmental Guidelines for outdoor piggeries may provide useful guidance on crop selection.

Small scale farms may also consider harvestable flower or vegetable crops to help remove the excess nutrients if there are enough water supplies.

- It is not recommended to leave pigs on any one area for more than 2 years due to soil compaction and nutrient build-up.

Plant species growing in the paddock will change over time as the nutrient content of the soil changes. These too can be an indicator for when to move the pigs.

There are some useful resources on the [Australian Pork Limited Outdoor Production](#) section of the website.

These include:

- factsheets that explain hotspots and soil nutrient buildup;
- Environmental guidelines for outdoor production – crops and nutrient removal are on page 35 of this document;
- Nutrient Balance Calculators in Excel which will complete all the calculations after entry of pig numbers and paddock area.

More information contact: Janine Price at APL

Email: Janine.price@australianpork.com.au

Mobile: 0429 899 845

Shade and cooling for pigs outdoors

Jayne Morgan NSW DPI

Now I know this topic gets mentioned on a regular basis but driving around over the last few months the one thing that continually amazes me is the poor quality or inadequacy of shade for animals (not just pigs) outdoors.

Too often I go to farms where there is not enough shade or wallow-space for the number of pigs in the group.

Figure 5: Dappled shade is inadequate for days with temperatures greater than 30°C.



Source: Jayce Morgan

Water should be plentiful and available at all times. If one pig can hog the wallow then the wallow area is not big enough if there is more than one pig in the paddock.

Shade should be as dense as possible – light dappled shade is inadequate on very hot days. If

you are waiting on trees to grow provide some form of constructed shade or shelter.

Figure 4: A shaded wallow with room for several pigs at the one time provides relief from the heat.



Source: Jayce Morgan

Dairy Australia has a publication 'Cool Cows Shade sprinklers and fans on dairy farms' which could be useful for ideas for sturdy constructed and moveable shade areas, and other means of providing relief from the heat.

Basic Pig Nutrition online course

Jayne Morgan NSW DPI

This course is one of the PROfarm online courses. It explains the basics of pig nutrition for the novice producer.

Nutrition impacts all aspects of pork production - breeding, growth and development, health and welfare. Feed is also the greatest component of the cost of production of pork.

If you understand the needs of the pig you are able to make better economic decisions regarding their feed supply as well as having happy healthy pigs.

[Basic Pig Nutrition Online Course](#)

Coming Events

Jayne Morgan NSW DPI

Forbes Stud Pig Sale and Bedgerebong Youth Show Day 2016

Stud Pig Sale Thursday 28th April

Youth Show Day Wednesday 27th April

More than 160 people attended the 2015 sale and all pigs were successfully sold. People and pigs travelled from Victoria, South Australia, Queensland and many areas of NSW.

In view of the popularity of the sale the organising committee is keen to attract trade displays from

companies that provide products and information for the pork industry such as nutrition and health products, technical advice, building materials and other technology which may be of interest to producers.

Enquires: Murray Reid mobile 0488 432 207 or email: vc Reid@westnet.com.au

Pan Pacific Pork Expo (PPPE) 2016

The 2016 PPPE will be held on the Gold Coast on May 25-26th. PPPE is held every 2 years and is a combination of Trade Show and Plenary Sessions.

This year's theme is "Inspiring Transformation".

The topics for plenary sessions on day 1 are:

- Technology Inspired Transformation
- Consumer Attitudes towards Agriculture

Topics for concurrent sessions and workshop on day 2 are:

- Advances in Production – How to get that one extra piglet
- Transforming science into practice
- Converting Research into money

There are member support packages for producer members of APL to assist with transport and accommodation.

Enquiries for PPPE 2016 please contact Jess Hooper-Chase phone 02 6270 8832 or email Jess.Hooper-Chase@australianpork.com.au

Blast from the past

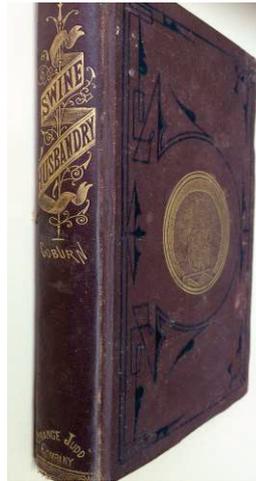
Jayce Morgan NSW DPI

I have a book on my shelf that dates from 1877. It is an American book on Swine Husbandry by FD Coburn.

The book is a compilation of information from different authors. Mr. Coburn writes in the preface: "...I have acted upon the belief that no one man, or any half-dozen men, know all there is worth knowing on a subject so extensive and important as that of Swine Husbandry; still there are many men who know something concerning some branch of it..."

It is interesting reading if only to see what has changed and what is similar. Chapters look at the industry in general, different pig breeds, their origins and their characteristics, husbandry, health topics and issues.

Figure 6: Mr. Coburn's Swine Husbandry book.



Source: Jayce Morgan

In the first chapter the link of grain crops, livestock and value adding for profit is introduced.

"By a comparison of the average prices of corn and fat hogs for the ten years previous to 1876, we find that the corn fed to hogs has been marketed at a higher price than that sold as grain; the average price of pork during this period not varying much either way from 6¼ cents per pound. Ten pounds being a moderate estimate of the quantity of pork a bushel of corn should make, it is seen that thiswould bring sixty cents per bushel for the corn.....would still leave a net profit of 20 cents per bushel....."

".....it is an unheard of occurrence for well fattened hogs to not have a cash value and a ready market, in any locality, however remote...."

"There is no other animal of which there is so little waste as a well-bred, well-fattened hog, and being the medium for marketing a large per cent of the enormous corn crops of the Middle, Western and South-Western states....."

The 'standard of excellence' for pork production is to produce the "largest quantity and best quality of pork and lard, from a given quantity of food in the shortest time, with the least expense and risk."

This sentiment is from 139 years ago but sounds remarkably familiar.

Around the web

Jayce Morgan NSW DPI

A couple of interesting links on animal welfare and antibiotics originally seen in [The PigSite](#) e-newsletter (thank you):

[The Business Benchmark on Farm Animal Welfare 2015 Report](#) - This is the fourth Business Benchmark on Farm Animal Welfare (BBFAW)

report, following previous Benchmarks in 2012, 2013 and 2014.

It describes how global food companies are managing and reporting on farm animal welfare, assesses the progress that has been made since the first Benchmark report, analyses the factors that are driving improvements in corporate practice and performance and reflects on the obstacles to further progress on farm animal welfare.

Ninety companies worldwide, 2 from Australia and 1 from New Zealand are listed in the report.

Animal welfare is becoming an important business agenda. *“For example, the proportion of companies with a published farm animal welfare policy has increased from 46% in 2012 to 69% in 2015, and the proportion with published objectives and targets for farm animal welfare has increased from 26% in 2012 to 54% in 2015.”*

Worth a read

Antibiotics and antibiotic resistance in veterinary science – This publication explains antibiotics and antibiotic resistance. It is compiled by HealthforAnimals which is a non-profit, non-governmental organisation representing manufacturers of veterinary pharmaceuticals, vaccines and other animal health products throughout the world, as well as the associations that represent companies at national and regional levels (referred to as Members).

Again worth reading

The following link comes from Murray Spicer in NSW DPI:

Accidental Vaccination with Veterinary Products
This is an interesting and quite graphic talk with video on problems from accidental self-vaccination. The presentation was delivered at the **Nuffield Australia National Conference 2015** by Dr Gary Kode.

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

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (February 2016). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

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