

# A newsletter for pork producers



## PigBytes

Issue 30 November 2016

### In this issue

|                                                             |   |
|-------------------------------------------------------------|---|
| Online ProHand Training for moving and handling pigs .....  | 1 |
| ProHand .....                                               | 1 |
| Analysing costs to determine your business priorities ..... | 2 |
| Mosquitos, worms, fire – be prepared! .....                 | 5 |
| Breeding for improved Welfare .....                         | 6 |
| Agriculture is risky business! .....                        | 6 |
| Vitamin D .....                                             | 7 |

### Online ProHand Training for moving and handling pigs

Jayce Morgan

If you work with pigs then at some stage you will have to move them. This can be difficult if you don't understand how pigs respond to people and the subtle signals they display to indicate how they are feeling.

There are a couple of videos created by Manitoba Pork in Canada that can help stockpersons to understand their pigs.

These videos are free online at Manitoba Pork [Pig Handling](#). The first video covers basic pig behaviour while the second video looks at how your position and movements will affect pig flow within a pig shed.

These videos are particularly useful to the novice stockperson.

#### ProHand

ProHand is an Australian produced pig handling training course which targets stockperson attitudes towards pigs and the effect these attitudes can have on reproduction, growth, stress levels and meat quality.

Research since the 1980s has shown that livestock, not only pigs can be fearful of humans; and this fear has a measurable negative effect on

the livestock production parameters. For example fear of people has been identified as the cause of up to 20% of the difference in reproductive performance between pig herds.

Pigs that are not fearful of their stockperson handlers are more curious when faced with novel situations and are easier to handle as well as being more productive.

There is even a suggestion that the human effect can be environmentally enriching. Pigs handled by competent stockpersons with good attitudes towards their charges result in pigs that are more resilient to stress.

Skills learnt in ProHand are important to the stockperson whether they work indoors or outdoors. It is the positive (or negative) interactions that determine pig behaviour in regular and new situations.

Pigs unused to close proximity with people or confined areas such as raceways or small yards with concrete flooring can become stressed when they go to abattoirs. This can cause problems in lairage areas at abattoirs and has negative effects on meat quality.

Positive handling experiences in small yards with different surfaces underfoot can be beneficial both for the animal experience and your end product.

ProHand training is also available for abattoir workers and is recommended.

ProHand training is available online. There is a certificate of completion provided when the course is complete. It is more useful to the stockperson with some experience in handling pigs.

Completion of ProHand is evidence towards the Move and Handle Pigs competency skill set that is part of the Certificate III in Pork Production.

Contact Ashley Norval at APL for your User ID and login details for ProHand.

Email: [ashley.norval@australianpork.com.au](mailto:ashley.norval@australianpork.com.au) or  
Mobile: 0437 177 527

## Analysing costs to determine your business priorities

Sara Willis and John Riley

A measure of the financial health of pork production is the pig meat price to feed price ratio. This ratio measures the kilograms of feed that can be purchased by the sale of one kilogram of pig meat, i.e. the price of pig meat, in c/kg HSCW, divided by the price of feed, in c/kg.

As illustrated in Figure 1, the current ratio is nearly 9:1 compared with the long term average of

around 7:1. A high ratio signals a better position for pork producers.

Figure 2 shows the bacon and feed prices, in real terms, since 1987. The prices are expressed in September 2016 dollars using the consumer price index (CPI) (for Brisbane, sourced from [Australian Bureau of Statistics](#)).

For example, in November 2009, the bacon price was 314.5 c/kg, which at that time bought the same amount of goods as 365c/kg buys 7 years later in 2016. The 'real' bacon price for November 2009 in September 2016 dollars is 365 c/kg.

Figure 1: Trend in ratio for pig price to feed price for Queensland.

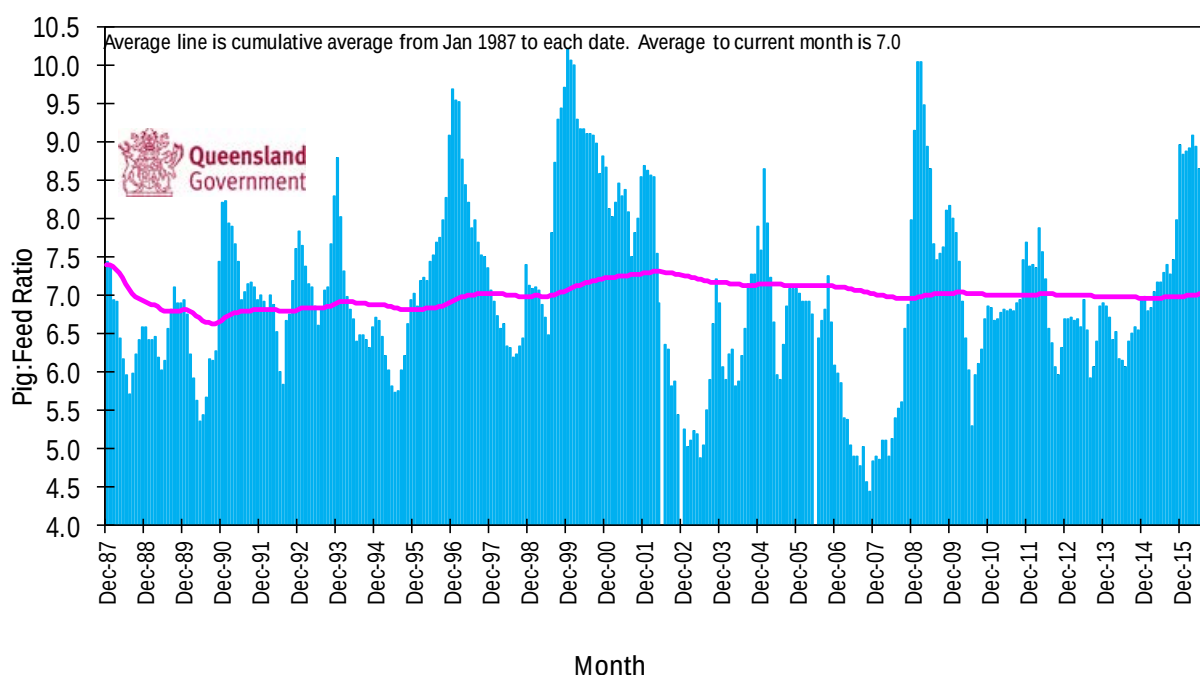
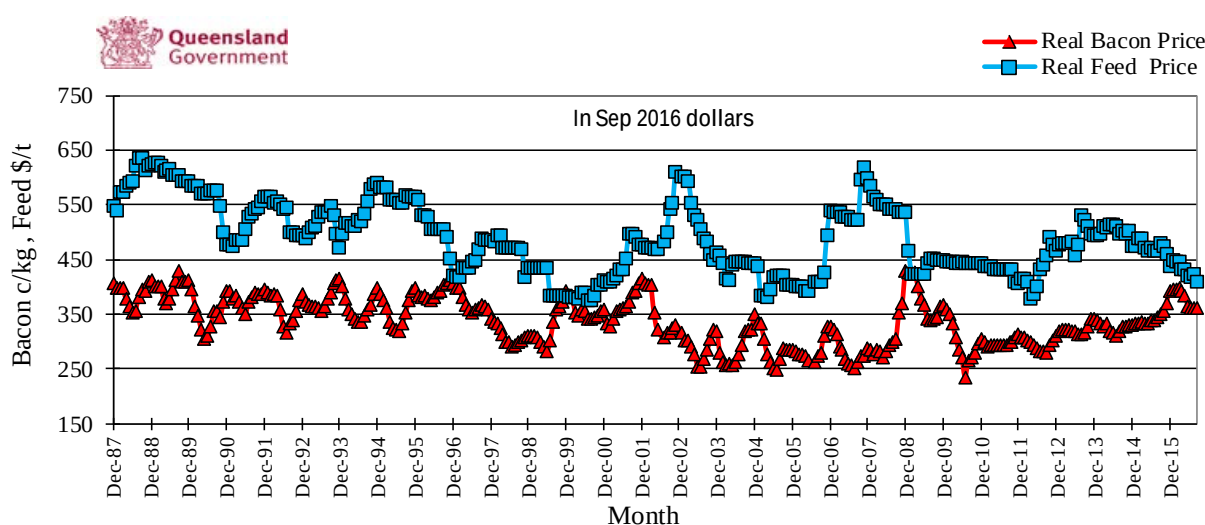


Figure 2: Trend in bacon and feed prices in Queensland expressed in September 2016 dollars.



When viewing Figure 2 in conjunction with Figure 1, we can see whether pig or feed price has the greatest influence on the ratio at any given time.

As the gap between bacon and feed price narrows, the pig meat to feed price ratio improves and consequently profitability increases. The data relates to the Queensland industry but the pattern of the results will be similar for the other eastern states.

Currently the industry is in a buoyant and optimistic mood. A combination of high pig meat price and falling feed price has stimulated investment in buildings, new technologies and in some instances expansion.

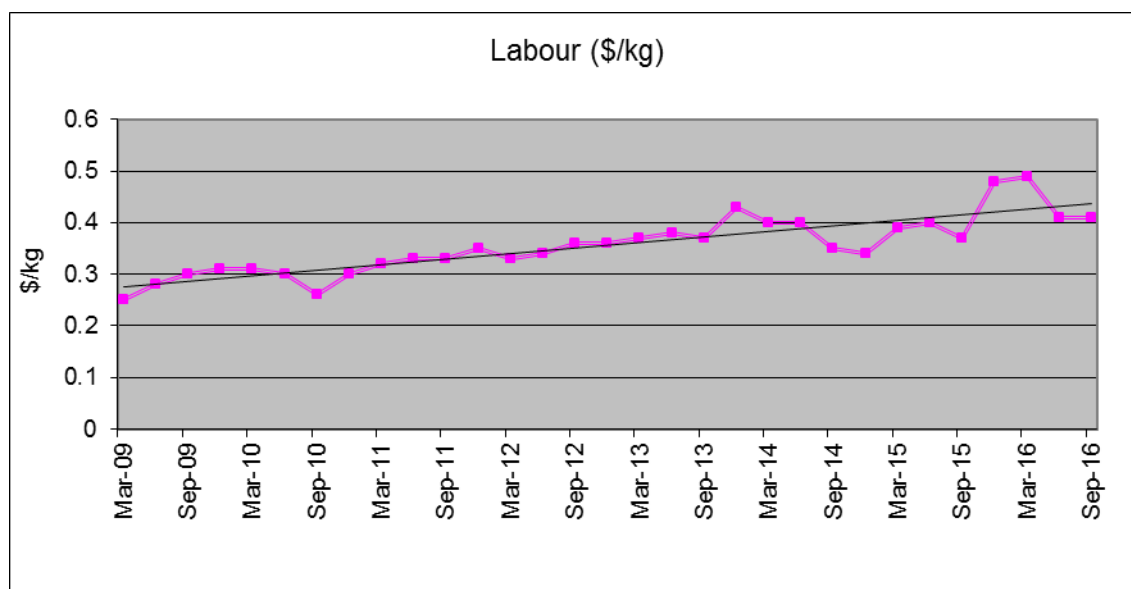
Before embarking on an investment program, it's essential to identify the cost of feed and the key non-feed costs of labour, health, power, breeding and others that are limiting margins and return on investment. Financial results provided by a group

of producers in Queensland who meet quarterly to benchmark their performance can be used to highlight the movement over time of key non-feed costs.

### Labour cost

After feed cost, labour is the second highest cost of production. Figure 3 shows the movement in average labour cost over the last eight years from around \$0.25/kg to \$0.40/kg of pig meat sold. Competition from other industries in particular mining, has seen the employment of 457 visa holders from Asia and Eastern Europe and in some instances back packers filling in for Australians. High staff turnover has been a feature of the industry and continues to drain profits. Departing staff with minds in other places can be less diligent leading to a drop in performance. In addition, the new employee has a cost as induction, training and supervision are required.

Figure 3: Trend in labour cost for a sample group since 2009



The value of skilled and trained staff has been researched over many years by Professor Paul Hemsworth, now at Melbourne University. Professor Hemsworth has carried out a number of studies which have measured the effect of positive and negative behaviour by the stock person on growth rate and pregnancy rate (Table 1). In these studies, negative handling was described as hits, slaps and kicks and positive handling as pats, rubs, strokes or even just resting a hand on the pigs back.

Professor Hemsworth also measured the improvement in reproductive performance resulting from the stock person undergoing a training program on pig handling and interactions. The program resulted in an increase of 2 pigs weaned/sow/year in herds where training occurred. The program was the forerunner of ProHand. APL has recently relaunched ProHand in a user friendly version, now available online.

Table 1: The penalty of the poor stockperson

| Variable                                                     | Positive behaviours | Negative behaviours |
|--------------------------------------------------------------|---------------------|---------------------|
| Growth rate (g/day)<br><i>Hemsworth et al (1981)</i>         | 709                 | 669                 |
| Growth rate (g/day)<br><i>Gonyou (1986)</i>                  | 897                 | 837                 |
| Pregnancy rate (%)<br><i>Hemsworth et al (1986)</i>          | 88                  | 33                  |
| Growth rate (g/day)<br><i>Hemsworth &amp; Barnett (1991)</i> | 656                 | 641                 |
| Growth rate (g/day)<br><i>Hemsworth et al (1996)</i>         | 974                 | 940                 |

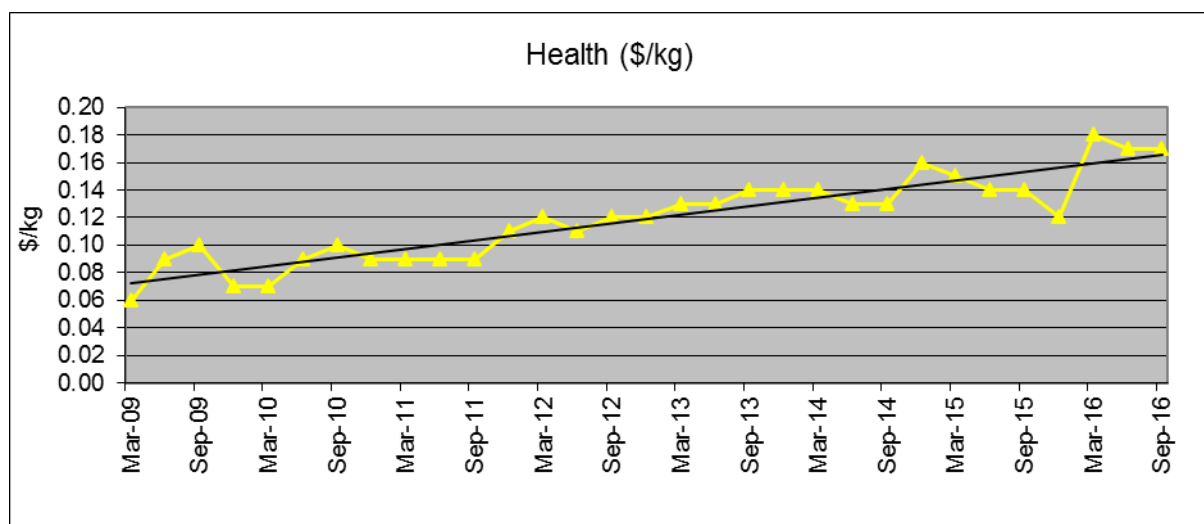
Source: ProHand Stockpersons manual

### Health costs

Health costs, which includes all in-feed medication, vaccines, vet services & veterinary consumables averaged for the group around \$0.17/kg of pig

meat sold (Figure 4). Consumer demands will dictate further control of antibiotic use. To maintain performance management practices will need to be addressed including stocking density, air quality, pen hygiene, climatic temperature and biosecurity.

Figure 4: Trend in pig health costs for sample group since 2009

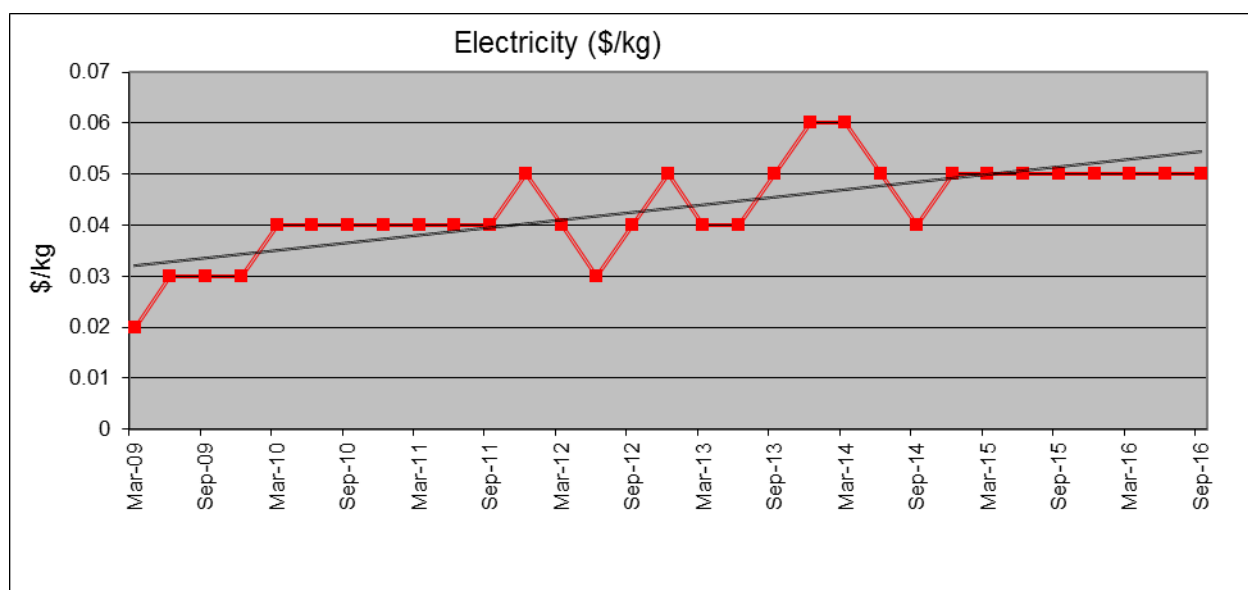


### Electricity and gas

Increases in electricity costs have been well publicised. The benchmarking group saw their power costs nearly double from 2009 to 2016 (Figure 5). Many larger enterprises are looking at cost benefits of capturing methane or installing solar power to reduce power costs. For the smaller producer, an energy audit could identify some

steps to reduce costs. Steps include operating with the most economical tariff, shifting loads to off peak periods (e.g. milling of grain and pumping to fill tanks), using motors that are correctly suited and sized, ensuring electrical equipment is cleaned and maintained, and improving the efficiency of heat lamps by reducing the area being heated, introducing thermostatic controllers and using dimmers to conserve energy.

Figure 5: Trends in electricity costs for a sample group since 2009



### Other costs

There is a long list of other costs incurred in all business which impact on margins. There is the cost of doing business including APIQ audits, EPA fees, and company registration. As well there is the cost of maintaining the facility, breeding, transport, contract growing and others.

In conclusion, know your current costs, your business strengths and weaknesses to determine your priorities. You will then be able to invest confidently in your business future and have a sustainable business in 2025.

Need more information contact Sara Willis

[Sara.willis@daf.qld.gov.au](mailto:Sara.willis@daf.qld.gov.au) or Phone 07 46881214

## Mosquitos, worms, fire – be prepared!

Jayce Morgan

Well it has been a difficult season for many farmers but some of the real challenges may only just be starting.

So here are a few things to think about:

- [Mosquitos and other biting insects](#) – with all the water around there are going to be lots of mosquitos so talk to your vet now for best control measures.

Pigs that have suffered lots of bites will have skins with lots of lesions and your processor may decide to remove the skin during

processing resulting in reduced dressing% and less money for you.

If you use chemicals for insect control follow label directions, obey withhold periods and do not use any products for 'off label' use without veterinary direction. See also [External Parasites of Pigs](#) a Primefact by NSW DPI.

- [Worms](#) – the conditions are excellent for survival of worm eggs and young pigs are at most risk.
  - [Liver fluke](#) is not common in pigs but pigs can be infected if they ingest the snails that carry the fluke larvae.
  - Outdoor producers should be aware that grass seeds such as barley grass cause big problems for sheep and lambs and could be an issue for piglets or the eyes of older pigs in outdoor operations.
  - Unusual plants should be investigated to make sure they are not poisonous to pigs. Contact council weeds officers or Local Land Services.
- Remember that weeds such as Patterson's Curse have cumulative effects on the animals liver due to the alkaloids they contain.
- Make a [bushfire plan](#) – all the rain means lots of growth which will become fuel for summer fires.



## Breeding for improved Welfare

Jayne Morgan

The recent multi-species workshop '[Breeding Focus 2016 – Improving Welfare](#)' was held in Armidale in early September. There were some really interesting talks.

There was even a talk on the welfare of crocodiles on crocodile farms - not a species we tend to think about but they have specific needs for growth and development like all other living creatures.

The definition and concepts of animal welfare are evolving and there has been a shift from the '5 Freedoms' to developing a better understanding and evaluation of how an animal copes with its environment.

*On-farm welfare measurement, particularly for assurance schemes, is often a compromise between assessing the resources or management inputs for the animals; and the welfare state of the animals themselves. (Fisher 2016)*

Scientists within the animal welfare disciplines have almost as great a range of views and opinions as mainstream society.

Then there is the problem of what are the best indicators and how best to measure these. Can data measurements collected at abattoirs such as skin lesions, ear notching and tail docking indicate welfare of the animals on their farm of origin?

For targeted on-farm animal welfare assessment the gold standard becomes independent 3<sup>rd</sup> party assessment. But this is expensive and also one moment in time.

When welfare and breeding are in the one phrase you might think along the lines of selection for ease of birth and better survival for sow and piglets.

Interestingly tail biting can have a genetic component. Breuer *et al* (2005) identified genetic variation in tail biting among Landrace pigs but no genetic differences in the incidence of tail biting among Large White pigs.

Further results by Breuer *et al* (2005) indicated that selection for increased leanness and growth rate may increase the incidence of tail biting.

Divergent groups of pigs selected for high and low growth indicated differences in behaviour traits and welfare indices including tail biting.

Pigs in the high growth group showed more comfort behaviour, less chewing, less tail biting and less ear biting.

Another trait assessment was flight time or nervous behaviour. Research has indicated that there are no genetic associations between flight time and growth so selection for improved productivity and leanness had minimal impact on flight time.

However Bunter (2005) reported a significant genetic correlation between flight time and pH recorded 24 hours post mortem. High final pH indicates dark firm dry pork which is an important aspect of pork quality.

But as everyone who has completed ProHand knows the stockperson has a huge environmental effect which can reduce some negative genetic effects of temperament.

Great workshop!

[Breeding Focus 2016 – Improving Welfare proceedings](#)

## Agriculture is risky business!

Jayne Morgan

A [Safe Work Australia report](#) on work health and safety in agriculture reveals that agriculture is a high risk industry with 14.8 fatalities per 100,000 workers.

This is more than any other industry including mining.

Seventy six percent of fatalities involve vehicles and thirty two percent of the fatally injured are aged over 65 years.

Twenty nine percent of vehicle fatalities occurred while workers were driving on farm and the majority (79%) were driving tractors and quad bikes.

Thankfully there were no reports of fatalities due to pigs; however almost 5% of serious claims were due to pigs.

Queensland and NSW have the second and fourth highest numbers of fatalities and serious claims respectively.

Thankfully there is a reduction of 24% of fatalities over the last 12 years. Let's keep the downward trend.

Our farmers are precious – please be careful.

## Vitamin D

Jayne Morgan

A recent article on The PigSite reporting the effects of [optimal Vitamin D<sub>3</sub> supplementation](#) to sows during lactation showed improved lifetime performance of the progeny in terms of post weaning weight gain and heavier carcasses than similar pigs from sows with low or high vitamin D<sub>3</sub> supplementation.

Nutrition treatments that have positive impacts for the sow and litter can mean better performance for the overall business in terms of increased profit margins, shorter growing periods before market and the reduced feed costs associated, to name just a few.

Adequate supplementation of sow diets with vitamin D<sub>3</sub> is a worthy topic of discussion with your pig nutritionist.

However I feel compelled to ask the obvious – has anyone compared a vitamin D<sub>3</sub> supplement with simple time in the sun for sows?

Modern housing systems for lactating sows mean sunshine is difficult to provide and to compare different treatments with proper scientific rigor.

Perhaps there is a student project here waiting for some innovative thinking person.

Deficiency of vitamin D can result in bone disorders such as rickets, osteomalacia and osteoporosis. [Vitamin D](#) is also reported to boost the immune response under disease conditions.

### NSW Department of Primary Industries (NSW DPI) Pig Industry Group

Jayne Morgan

Development Officer Pigs.....02 6763 1257

Dr Amanda Lee

Senior Veterinary Officer (Pigs and Poultry)

.....02 4640 6308

Alex Russell

Manager

Intensive Livestock Industries .....02 6881 1212

### Victorian Department of Economic Development Jobs Transport and Resources (DEDJTR) – Pig Industry Group

Youssef Abs El-Osta

General Manager-Pig Centre.....03 5430 4590

Patrick Daniel

Manager Pig Health Monitoring Service

(PHMS) .....03 54304570

### Queensland Department of Agriculture and Fisheries (DAF)

Sara Willis

Principal Extension Officer.....07 4688 1214

*PigBytes* is a newsletter from the pig industry team at NSW DPI, Victorian ECODEV and Queensland DAF.

Editor: Jayne Morgan

[jayne.morgan@dpi.nsw.gov.au](mailto:jayne.morgan@dpi.nsw.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

© State of New South Wales through the Department of Industry, Skills and Regional Development 2016. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 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.

Your email address will be collected NSW Department Primary Industries and recorded for the purpose of providing an email newsletter service for you. This information will not be distributed to any other parties. The supply of your email address is voluntary. However, the email newsletter service cannot be effected without storage of this information on our databases. You may update or unsubscribe from these services at any time by sending an email to the editor shown above.

Published by the Department of Primary Industries.

Reference number PUB 16/498