



# PIGe:newsletter



## Pig Information Group - November 2016 Report

### Welcome to the November edition of the PIG e:newsletter.

There is much activity in the pig sector- the UK has voted to leave the EU, the pound has weakened against the euro AND the pig price has also risen significantly. There is no doubt that the BREXIT vote will bring a number of challenges and opportunities however the pig sector is no stranger at adapting to change.

Part of this is down to how the pig industry uses information available to it and how it can call on professionals to interpret the data to improve the industry as a whole. An example of this is the various pig health schemes which allow the industry to monitor endemic disease and this is covered in this issue's Focus Topic. Another example is how vets can diagnose the correct course of action through identifying sensitivity of pathogens to antibiotics.

Other topics covered in this edition include the role further education bodies play in ensuring there is new blood into the sector- a vital component for the sustainability of any industry. This can be by giving students a first opportunity to view pig farms or even using working farms for project work.

SRUC has a number of on-going research projects and part of this includes bringing their findings through into the commercial world. An example of this is the recent Free Farrowing Workshop. SRUC also attended a recent smallholders convention where attendees were given information about latest research on alternative feedstuffs and general advice on feeding pigs.

These are examples of how all parties within the pig industry can gather knowledge, interpret it and then utilise it to the greater benefit of the sector.

This e-newsletter gives an insight into the work of the Pig Information Group, which comprises representative experts from SRUC's Research and Education groups and SAC Consultancy who work on various topics relating to pigs. Our primary aim is to enhance communication with those in the pig supply chain.

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### UK pig price keep on rising as sterling falls after Brexit vote however currency and smaller harvest leads to wheat price rises.

Month end date	EU Spec GB SPP (p/kg)	Change on month (p)	Average Pig Weight (Kg)	UK weekly clean kill-000head	LIFFE wheat futures (£/tonne)	CBOT Soyameal futures (\$/tonne)
September	139.91	+4.34	81.67	206.9	123.90	310.48
August	135.57	+7.52	80.69	200.4	128.58	330.65
July	128.05	+7.17	80.56	212.3	120.60	365.86
June	120.88	+4.87	80.74	196.4	108.82	402.26

Facts and figures calculated from industry sources (AHDB and Scottish Pig Producers)

- The EU Spec GB SPP has continued to rise through the summer with the longest run of continuous week on week price rises for over 20 years.
- The £ has weakened significantly against the € post Brexit, making imports less competitive however this has also led to wheat futures rising in the wake of the referendum.
- Demand from China continues to help support EU prices although what the effect of a potential large surplus of pork from the USA remains to be seen as herd performance increases with the highest recorded pig crop reported.
- Figures supplied by Agrosoft to AHDB have shown that UK breeding herd performance has continued to improve suggesting an increase in supplies to come however this has been tempered by slight reductions in performance in rearing and finishing herds.
- Provisional Eurostat figures show an overall reduction in the EU pig breeding and finishing herds. Of the major producers only the UK has posted increases in herd size.
- Latest estimate for 2016 UK harvest by Strategie Grains put wheat crop at 14.5m tons (16.4m tons in 2015) with barley at 6.7m tons (7.4 m tons in 2015). Wheat prices have firmed due to currency and concerns over crops. The poorer UK harvest has even seen localised concern over straw supplies with prices higher than usual at this stage of the year.
- Soya has continued to fall with the weight of good crop yields (with the USA seeing a record harvest), good logistics and high levels of plantings in South America. The downside for UK farmers is that while the recent fall in value of the pound has brought many benefits- imported commodities have become more expensive in relative terms.
- UK pigmeat sales continue to decrease in terms of volume and value however the producer's share of the retail pork price has continued to rise.



## A fresh intake of students get a great introduction to practical pig farming at SRUC.

**Students at SRUC have been learning more about the pig industry.** First year Aberdeen Agriculture students had a very informative farm visit to Roderic Bruce's unit at Logiereive, Udney, Aberdeenshire. They learnt about how the pig production system works and the opportunities that are available within the pig industry.

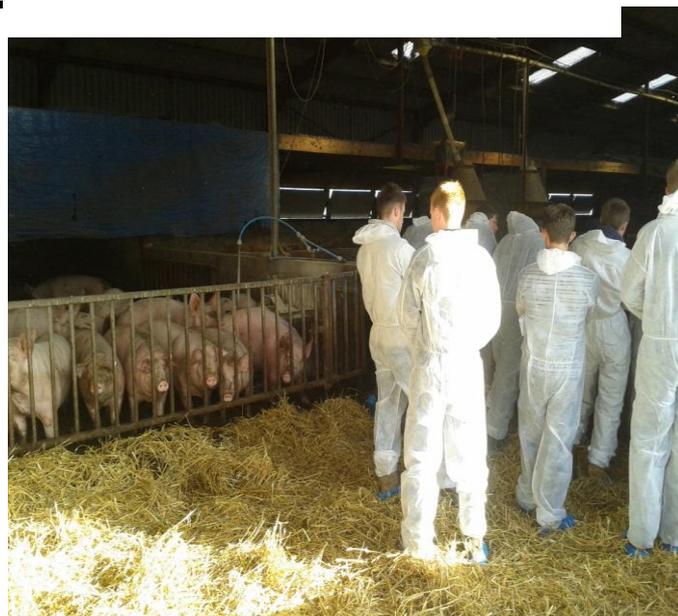
For many students this was their first visit to a pig unit and of particular interest to them were the litter sizes and growth rates of the piglets. They were also interested in the way a pig enterprise can complement other farm enterprises.

Two of our fourth year Agriculture students are also out on farm collecting data for their honours projects.

- One student is doing an investigation into the potential to reduce mortality and improve performance in piglets from birth to weaning by feeding a milk/lactobacillus supplement.
- Another student is looking into the potential of feeding Turmeric to reduce lameness during the growing phase.

The support of farmers in allowing students to visit their units or set up trials is greatly appreciated as this allows students to expand their knowledge of commercial farm operations.

Meanwhile students down at the Edinburgh campus will be beginning their pig education with a visit to the Easter Howgate unit mid-November. Easter Howgate provides an excellent insight into high welfare indoor pig production, as well as giving access to active, industry relevant trials in pig welfare and behaviour, and nutrition. We have an honours student working alongside our Animal Welfare and Behaviour team assessing aggression between pigs. Utilising video data, the project aims analyse aggressive behaviour, in particularly bullying behaviour, to gain insight in different fight strategies between pigs.



Students benefiting from on-farm learning

Pig practical classes will also be starting shortly, with all Year 1 Agriculture students taking part in an AI masterclass over the next six months. As the majority of Edinburgh students hail from a ruminant or arable background, the classes provide practical, hands on experience with pigs that they would not get otherwise – and the ability to add a new skill to their CV.

Edinburgh Campus is very grateful to Peter Finnie at Easter Howgate for providing access to the facilities (and pigs!), and sharing a wealth of knowledge in pig production.

**Anna Sinclair/ Naomi Scott**



## Disease surveillance schemes- their role in improving pig health at farm and national level

The industry-based endemic disease surveillance schemes operating in many abattoirs across UK play a key role in monitoring disease prevalence

What are the benefits of routine monitoring?

- Aid identification of changes in disease status
- Implement appropriate disease control measures.
- Long term reduction and possible eradication of certain conditions (monitoring at abattoirs has seen decreases in ascariasis and mange)

Most commercial pig producers in Scotland are members of **Wholesome Pigs Scotland (WPS)**. With funding from QMS, participants receive disease prevalence estimates from quarterly abattoir screenings. Using advanced IT methods, trained operators on the killing lines monitor disease prevalence in any particular abattoir and estimates of national prevalence can be made.

These operators are looking for lesions indicating signs of:

- **enzootic pneumonia (EP-like lesions)**
- **pleurisy**
- **pleuropneumonia**
- **viral-like pneumonia**
- **abscesses in the lungs,**
- **pyaemia,**
- **milk spots,**
- **hepatic scarring,**
- **pericarditis,**
- **peritonitis,**
- **papular dermatitis**
- **tail bite lesions.**

Some observations are good indicators for endemic disease – e.g. papular dermatitis and milk spots are proxy measures of mange and ascariasis respectively.

These results provide benchmarks for pig veterinarians to

to drive health improvements, both in specific herds and throughout the industry as a whole. Other surveillance schemes in place in UK are the **BPEX Pig Health Scheme (BPHS)** funded by AHDB Pork covering England and Wales, and the **Northern Ireland health and welfare checks (NI H&W)**, funded by Pig Regen Ltd.

Recently researchers at the **Epidemiology Research Unit - SRUC** compared the prevalence of lesions assessed by the three Pig Health Schemes in UK, assessing how disease prevalence fluctuates from season to season, from one year to another and if there is any notable difference in prevalence between the three different schemes.

For the purpose of this round-up, we'll report on EP-like lesions, pleurisy, milk spots and papular dermatitis (Figure 1) from 2005 to 2015.

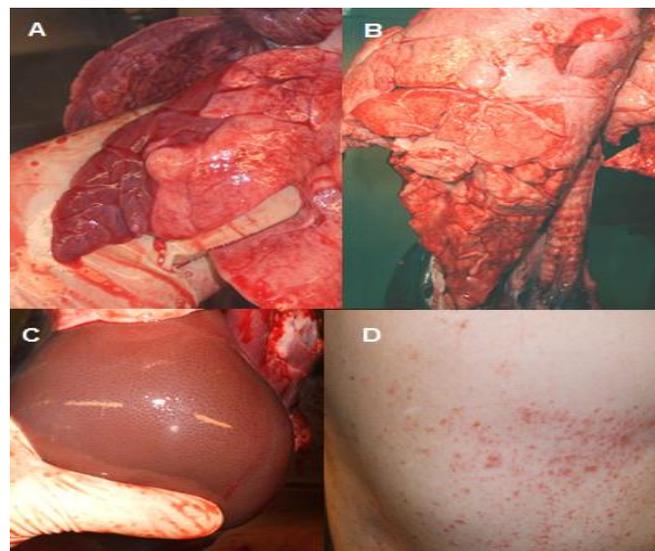


Figure 1 – Lesions at the abattoir: A – Enzootic pneumonia like lesions, B – Pleurisy, C – liver milk spots, D – Papular dermatitis (Photos courtesy of BPHS)

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Continuous monitoring of lesions at slaughter- a vital tool for measuring disease prevalence



## Respiratory Diseases – EP-like lesion and Pleurisy

Enzootic pneumonia-like (EP-like) lesions was the condition with the highest number of animals affected in the three schemes with the highest prevalence observed in BPHS followed by WPS. The trend in prevalence of EP-like lesions was similar for BPHS and WPS but differs for NIH&W (Figure 2). Seasonal patterns for prevalence of EP-like lesions were similar in BPHS and NIH&W where prevalence was highest in winter and lowest in summer. For WPS, the lowest prevalence was observed in winter and highest in autumn.

The pleurisy prevalence trend pattern was similar to that of EP-lesions in BPHS while in WPS a marked increase in trend was apparent between 2010 and 2012 (Figure 2). In NIH&W, the trend for pleurisy peaked in 2008 and after a decline, rose again to spike in 2010 (Figure 2). The seasonal patterns of pleurisy prevalence were similar in the three schemes being highest in winter and lowest in autumn.

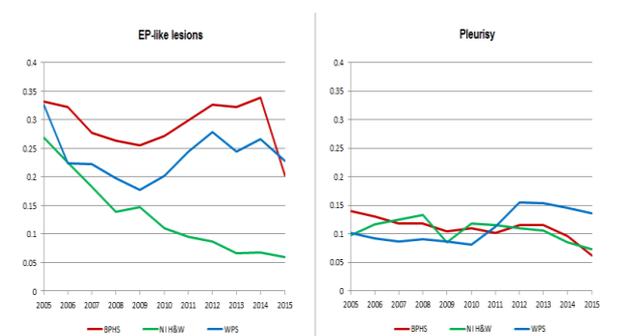


Figure 2 - Prevalence of enzootic pneumonia like lesions (EP-like lesions) and pleurisy in the three schemes from 2005 to 2015.

## Non-respiratory diseases – Milk spots and Papular dermatitis

A declining annual trend in the prevalence of liver milk spots was observed in the three schemes (Figure 3). Although annual prevalence was higher in NIH&W, prevalence decreased over the years in all the schemes but at different rates. In all three schemes prevalence peaked in autumn and was lowest in the spring.

There was a markedly lower (please note y-axis) prevalence of papular dermatitis in all three schemes between 2005 and 2015 but there is evidence of a resurgence within the WPS scheme for the period 2008-2010 before the declining trend resumes.

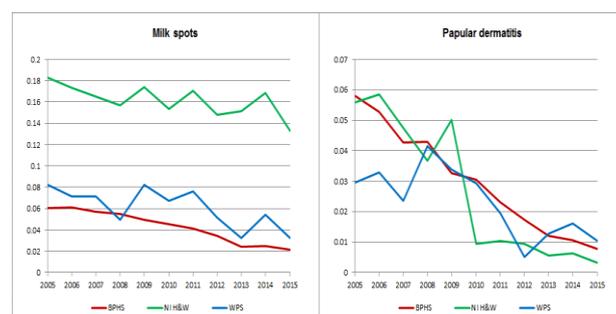


Figure 3 – Prevalence of milk spots and papular dermatitis in the three schemes from 2005 to 2015.

## Conclusion

In summary, we can say Scotland, England and Wales have seen an overall increase in the prevalence of EP-like lesions and pleurisy since 2009. Northern Ireland bucks this trend and, apart from pleurisy, shows a decrease in EP-like lesions over time. The prevalence of liver milk spots and papular dermatitis decreased over the years in all three schemes. This evidence, gained from integrating farm data with abattoir monitoring, provides a good example of how such data may be taken forward to result in positive health and welfare outcomes, both at farm and regional level.

The benefits of continuous standardised monitoring of lesions at slaughter are clear- it is an effective tool for monitoring disease prevalence and allows the early detection of changes. When combined with comparison of similar schemes in countries with a similar profile of pig production and management this allows prompt investigation and drive improvement. This gives the British pig industry the ability to continuously improve health and welfare and ultimately lead to 'safer' pork.

Carla Gomes



## SRUC researcher plays a key role in bringing alternative farrowing and lactation systems into the commercial environment.



Delegates gathered at a Free Farrowing Workshop in Belfast, September 2<sup>nd</sup>-3<sup>rd</sup> 2016, hosted by SRUC and University of Newcastle and supported by J Sainsbury's and the Scottish Funding Council.

**At the beginning of September researchers from across Europe joined industry representatives from the UK and NI as well as leading NGOs to discuss various aspects of non-confinement housing of sows for farrowing and lactation.**

The Free Farrowing Workshop was organised by Dr Emma Baxter (SRUC) and Professor Sandra Edwards (University of Newcastle) and was supported by J Sainsbury's and the Scottish Funding Council. The workshop followed similar events in 2008 and 2011 in Denmark and Austria respectively. Since 2008 the delegate list has grown considerably demonstrating the increasing interest in finding alternative farrowing and lactation systems that can be implemented commercially.

Previous workshops have concentrated on research and development of prototype systems, as well as understanding the animal aspects of free farrowing systems.

The organisers of this workshop wanted to focus on identifying state of the art knowledge, barriers and

opportunities for uptake. The programme included presentations of design and performance of zero confinement, temporary crating and group housing systems as well as discussing the value of nest-building behaviour and potential alternatives to straw.

Finally there was an emphasis on management of loose housing systems including how to deal with large litters and the potential benefits of free farrowing systems for both sow and piglet welfare. With a leading retailer in J Sainsbury's co-sponsoring the event and representatives from Pork AHDB and the NPA actively participating in the workshop it was evident that there is real momentum within the industry to trial alternatives and move towards solutions for sows to be kept loose during farrowing and lactation and therefore enhance welfare standards further.

The talks and meeting notes are being summarised and will be made available on [www.freefarrowing.org](http://www.freefarrowing.org), the website set up by SRUC and Newcastle University to centralise free farrowing information.

**Emma Baxter**



## Smallholders get a taste of pig nutrition at recent gathering from SRUC.

**The annual gathering of Scottish Smallholder Producers on 24 September 2016 attracted hundreds of people from all around Scotland. The meeting- which was held at Lanark Auction Mart enabled smallholders to learn about some of the important dos and don'ts regarding the nutrition of their pigs.**

SAC consultant Ross Mackenzie and SRUC researcher Jos Houdijk spoke to about 30 pig producers, sharing some of their knowledge and experience on what to feed, and just as importantly what not to feed, as smallholders often explore a variety of potential feedstuffs that mainstream producers do not necessarily consider.

Ross emphasised the importance of following the rules and safe feeding when considering what to feed. By encouraging his audience to participate in "Play your feeds right"- a modification of the popular higher or lower game, he highlighted some of the issues associated with many of the feedstuffs small holders often consider using such as carrots, cabbage and apples. These feedstuffs may be large in bulk and therefore attractive to feed, but poor in protein and energy when fed as is. This demonstrated the importance of how keeping an eye on what the total ration delivers is vital for any producer.

Jos demonstrated that based on recent studies, grower and finisher pig rations could make use of home grown peas and beans to reduce reliance on soya. Old myths that high levels of beans give poor performance, dirty pigs and smelly meat have been debunked. Through the use of nutritionally complete grower and finisher diets, small and large scale studies with over a 1000 pigs showed that excellent growth rates, carcass yields and quality can be obtained without soya and 30% peas or beans.



**Going once! Ross and Jos at Lanark Mart presenting to smallholder pig producers.**

Similar work for rapeseed meal is showing that greater levels of this commodity can be used for finishers though for the more sensitive growers there seems to be an upper limit.

From the feedback in the ring, and afterwards next to the pigs on display, it is clear that there is mileage to look further into pig nutrition for smallholder producers. It should also be remembered that smallholders can often keep pigs from rare breeds or be using completely different genetics from those on a large commercial farm.

Whilst there is some excellent information out there, practices and experiences do vary, and this sector can learn a lot from each other on how to get the best out of their pigs through the safe use of locally available resources. Watch this space!

**Jos Houdijk**

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## Health Matters

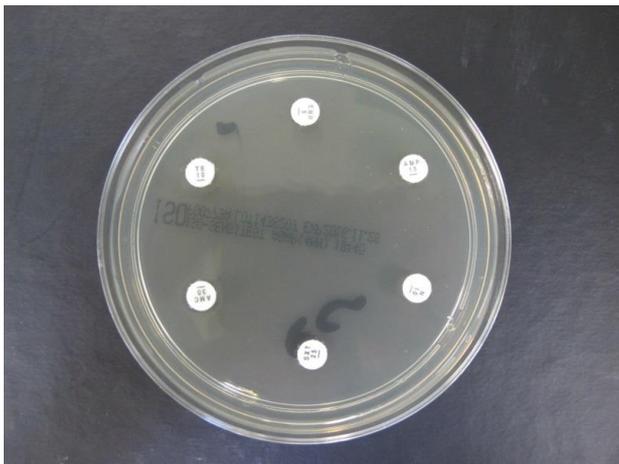


## SRUC vet Jill Thomson discusses what bugs can tell us.

**“It is great when decisions can be made on evidence rather than guesswork”.**

That was a wise quote from a pig farmer after discussing a lab report with his vet. The issue in question was what antibiotic would be best to treat an annoyingly high incidence of erysipelas in his growing pigs?

Fortunately bacteria can help us and provide the information if we ask in the right way. The pictures below show what happens – but let me explain.



**Picture 1. The start – The bacteria we want to test have been spread onto the medium and discs with antibiotics put in position**

In the first picture, the bacteria we want to test have been spread onto a gel-like medium that they like to grow on (it looks as if there is nothing there because they are microscopically small and you can't see them with the naked eye or camera lens). Once that is done, little discs containing different antibiotics are placed onto the gel. Then we put the plate into an incubator set at the pig's body temperature and leave the bacteria to grow for 24 hours.

When we next look at the plate (second picture) we see the bacteria have grown into many colonies that you can see easily. That is what happens in the .



**Picture 2 – The finish. Lots of bacteria have grown and the antibiotics have had different effects.**

- Two discs have not stopped the growth at all (10 o'clock and 2 o'clock)
- One has visibly reduced the growth, but not stopped it altogether (6 o'clock)
- Three have stopped the growth but show different strength of effect – a narrow zone (8 o'clock), a moderate zone (4 o'clock) and a wide zone (12 o'clock).

animal when they get infected. Next we look at the zones around the antibiotic discs to see which antibiotics have stopped the bacteria from growing. We measure the width of the zones and use that measurement to interpret whether the bug is 'sensitive' or 'resistant' to the antibiotic. Although this does not take into account all the factors that play a role in live pigs, it gives a good indication of what is most likely to work. In this case it can be seen that the bug is most sensitive to the antibiotic at 12 o'clock.

With the high value of livestock, the farmer's wish to see their pigs recover as quickly as possible and all the issues surrounding correct use of antibiotics, aren't we lucky that bugs can tell us so much!!

**Jill Thomson**

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The PIG e:newsletter was produced by the Pig Strategy Group at SRUC through funding from the Universities Innovation Fund, from Scottish Funding Council. Should you wish to know more about any of the articles featured or wish to find out more about SRUC pig related activities please contact the following or click on the links below.

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