



IPHS Symposium 2018

Update on the African swine fever situation in Europe.

Dr. Sally Gaynor BVetMed, MSc, MRCVS



Following 10 years in small animal practice in Dublin and two years as a Temporary Veterinary Inspector for the Department of Agriculture, Sally joined the Department full-time in 1991. She has worked in areas involving both animal health and veterinary public health. This has included a short period in a bovine/ovine slaughter plant, with the remainder of her career spent in headquarters on policy areas relating to salmonella in poultry, live animal trade, contingency planning for exotic diseases and import of animal products. She is currently Head of Division with responsibility for contingency planning for major exotic diseases, and Border Inspection Posts.

Sally's presentation will cover:

- The basics of African swine fever
- Why it such a threat
- What the current situation is
- How is could be introduced into Ireland
- How is spreads
- What the EU is doing to control it
- What DAFM is doing to prepare for it
- What pig farmers can do

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Pigs and Water: Low Cost/High Value.

Jamie Robertson, Honorary Research Fellow, University of Aberdeen



Jamie Robertson, MSc., BSc.(Agr), MIAgrE., graduated in Agricultural Science from Aberdeen University in 1977 and went on to work on research and development projects examining the link between environment and animal health. He spent some time working at the SAC Centre for Rural Buildings and then the University of Aberdeen, with early studies focused on respiratory diseases. Jamie was the UK representative on the International Commission for Agricultural Engineering working group on animal house environments and spent nine years managing Scottish pig monitor farm projects, including two partial depops. He is the current Director of Livestock Management Systems Ltd and an Honorary Research Fellow at the University of Aberdeen and the University of Edinburgh Royal School of Veterinary Studies.

Pigs and Water

A recent research report for AHDB Pigs (2017a) covers a wide range of practical and research based information. The driver in the UK has been the probability that the UK may need to change from primarily managing antibiotics as a feed additive and moving towards the more typical EU model of providing medications through the water system. Water systems are the prime delivery mechanisms for medications in the poultry industry.

The questions for the pig sector are straightforward:

- How much water is required in to each pig group pen?
- How do we define best access to water for specific pig sizes?
- How do we define and manage water quality?

The answer to the first question would appear easy; look up the relevant tables and do some maths. The major problem is that water consumption through the pig, and water disappearance from the system are not the same thing. Table 1 indicates a range of measured water disappearance from similar types of pigs. Water losses are considerable and expensive, and until losses are understood there is little chance of accuracy in delivering medication through the water supply.

Water Losses

Table 1 Daily Water Disappearance

Production Stage	Unit	Source:			
		ML	Prairie Swine Centre	North Carolina	Netherlands
Breeding/Station	l/sow	15	15	20	10
Farrowing	l/sow	37	20	32	
Nursery	l/pig	3	3	3	1
Grow/Finish	l/pig	7	7	17	4

(1) Pork Production Reference Guide, 2000.

(2) Water Intake of Pigs, Swine News, Feb., 1999.

(3) The Dutch Water Consumption, Research Institute for Pig Husbandry, 1999.

Research indicates that the approximate content of water in all pig manure (nursery, grower, finishing, etc) is 90.8% (American Society of Agricultural Engineers, 1992). Research conducted by the Prairie Swine Centre estimated that as much as 40% of the water delivered to a pig through a standard nipple drinker is actually wasted, and does not contribute to production (Farmscape, 2005; Gonyou, 1996). Other studies report that newborn pigs can waste more than 25% of the water which disappears from their drinker bowls and growing/finishing pigs may waste up to 60% of the water from a standard nipple drinker (as cited in Gonyou, 1996). Phillips et al. reported in 1990 that spillage by sows varies from 23-80% of water use, depending on the flow rate (as cited in Gonyou, 1996). Under the assumption that up to 40% of water is 'wasted' and does not contribute to production, Whittington estimated that this results in a C\$0.70 per pig expense to dispose of the additional liquid manure (Farmscape, 2005).

Harmon (2000) carried out an on-farm study done which compared water usage in swine farrow-to-finish facilities that employed wet/dry feeders and more traditional dry feeders with standard nipple drinkers. Pigs using the wet/dry feeders consumed 17.2% less water than pigs using the dry feeders with standard nipple drinkers. One advantage of the reduced water wastage in the wet/dry feeders was a reduction in the amount of manure moved from the building.

The American researcher Glen Almond has many years' experience assessing the impact of water delivery on pig units. His top tips (Raufer, B., 2011) for optimising water management are paraphrased below

- Leaky drinkers and pipes can waste substantial amounts of water. A single leak may cause more water loss in a day than the amount consumed by all of the pigs in the building on that day.
- Nipple-drinker height can make a big difference in water waste. A drinker should be at snout level or just above the pig's backline. Adjusting height of drinkers may be easy when new, but thereafter.....?
- Worn O-rings can reduce water flow or dramatically increase it. Do not hesitate to remove the drinker, check the filter and O-ring. If the filter is dirty, clean it. If the ring is flattened, replace it.
- Bowl or cup drinkers can cut waste up to 15 percent compared to mounted drinkers. However, contamination with faeces may be a problem, and animals may refuse to drink. Therefore, the bowls or cups need frequent cleaning.
- Arato drinkers are designed so that a pig needs to "engulf" the drinker in its mouth, thereby reducing spillage by 14 percent to 30 percent, when compared with conventional mounted drinkers.
- Water-line breaks should be treated like an emergency. Immediate attention is vital, not only because of water loss, but also because of the deprivation of water to pigs.
- Pressure washing is extremely important for animal health and should not be compromised. In terms of managing water use, be careful to stop the flow when not directing the nozzle to remove dirt, feed and so forth. Even though pre-soaking uses water, it does reduce pressure-washing time.
- Water meters monitor use and detect waste. At minimum, Almond recommends having a whole-farm water meter to record total weekly water use in the operation. Additional meters are required to regulate or manipulate water usage by changing drinkers in a building.
- Managing existing equipment: visually checking drinkers twice a day. Include it in your workers' daily routines. "Weekly checking will miss leaking drinkers." Water meters are not yet common, but if you have meters, check drinker flow rates weekly.

Warwick University has a checklist for water management that is simple but not regularly applied by the livestock sector, as shown in evidence from the AHDB Pork report. The attitude that water is cheap and therefore not worthy of much attention is too widespread, and attitudes need to change.

- Regular maintenance of existing systems and equipment to ensure efficient operation
- Use meters to monitor water usage

- Isolate and empty troughs when not in use
- Use bowser tanks or pump from a nearby source to supply water to troughs. This reduces the length of pipework and associated risk leak risks
- Adjust ball valves on troughs to prevent overflow
- Use smaller troughs that require less water for cleaning
- Use nose plate operated drinkers instead of troughs to ensure fresh water and to reduce the volume of water for cleaning
- Change to drinkers that reduce spillage eg. Bite ball valves, nipple drinkers, Arato-V drinkers
- Fit drinkers with catch basins to retain overflow and make them suitable for smaller animals
- Fit drinkers with a guide rail to ensure animals approach head on. This prevents water seeping from the side of the animals mouth
- Pre-soak yards and housing to loosen dirt before washing
- Scrape yards to remove dirt before washing
- High pressure hoses speed up cleaning but use more water
- Cover external yards to prevent rainwater adding to the volume of slurry
- Harvest rainwater from roofs for animal drinking and washing
- Maintain gutters and downpipes to prevent rainwater adding to the volume of slurry.

Water and Health

The pig industry has a solid awareness of the value of biosecurity, of working buildings All IN, All Out, of the various attributes of different cleaning regimes. Hygiene of water systems is a little more suspect, and in the UK at least there is significant room for improving water hygiene to the benefit of pig health and performance. Table 2 lists the survival times of a few relevant organisms in water systems. This leads to the suggestion that farm water systems need to be cleaned, and then routinely cleaned, but there are risks involved that need to be understood first.

Table 2. Survival times of commonly implicated pathogens

Pathogen	Expected survival time: water	Expected survival time: faeces
Mycoplasma hyopneumoniae	31 days	31 days
E. coli	Variable (few days-year) Will still grow in sterile water. Low temperatures/toxic metals (lead, copper, mercury and cadmium) induce a dormant state.	Variable (few days-year) dependant on nutrient/energy availability

Porcine Reproductive and Respiratory Syndrome (PRRS) virus	11 days	7 days
<i>Brachyspira hyodystenteriae</i>	61 days (at 5°C)	61 days (at 5°C)
<i>Salmonella spp.</i>	54 days	3 months
<i>Streptococcus suis</i>	1-2 weeks	8-104 days (temperature dependant <20-0°C respectively)
<i>Actinobacillus pleuropneumoniae</i>	3 weeks	Up to 3 weeks
Swine Influenza	>32 days	>6 weeks (at 5°C. Survival times reduced with increased temperature.)

Sources: Villarreal, 2010; van Elsas, 2011; Drew, 2004; Alvarez-Ordóñez, 2013; Constable, 2016; Gray, 2001; Moore, 2003; Clifton-Hadley, 1984; Loera-Muro, 2013; Brown and others, 2009; Bøtner and others, 2012

Water Hygiene

Good water management requires routines and measurement like any other input. There is ample guidance on how to sample flow rates and water quality, eg on the AHDB Pork website (2017b). The targets are to check flow rates at the point of delivery to the pigs on a regular basis, and to check microbiology at a frequency that reflects how clean the water actually is. Many farms use water from boreholes, and the recommendation is that boreholes are checked for microbiology and Total Dissolved Solids (TDS) on an annual basis. A database of 140 borehole water samples from the UK showed that 80% were within target parameters, which clearly indicates that there is room for improvement.

Cleaning Water Systems

“Water should initially be checked at source for microbiological contamination, as well as at any exit from primary source storage. Large storage tanks should be emptied at least annually and sanitised using a suitable water disinfectant, depending on the type and degree of contamination observed. Heavy sediments need to be physically removed from tanks, and consideration should be given to treating water further on entry and certainly on exit from these tanks if mineral or microbiological limits are exceeded.

Pipes between primary and secondary storage should be disrupted and examined for gross contamination. As part of routine annual maintenance, a water treatment based on removing scale/iron/manganese build-up and biofilm in these areas should be considered. Depending on the extent, a system deep clean could be needed to restore the internal surfaces of the pipes to their original surface. The degree of roughness of the internal surface of pipework has a greater influence on the ease of cleaning than the type of pipe metal itself.

Secondary water storage tanks should be sanitised with each fill of the building they supply, along with the pipes and drinkers they feed. An ongoing and permanent chemical additive

may then be required if source water is contaminated, or health challenges are present in these buildings.

Treatment of continually occupied buildings or buildings where animals are present is possible but requires care and suitable chemical agents. High levels of water sanitisers will free large quantities of scale and biofilm which can block valves or drinkers and result in water deprivation unless rapidly cleaned. Lower concentrations of some chemicals are well tolerated by pigs and can slowly remove biofilm without detriment to the pigs or to water flow.” (AHDB Pork, 2017)

Conclusion

Improving management of water on pig units is an excellent opportunity for veterinarians to support their clients. Data from the UK shows that there are significant opportunities to improve water delivery and quality to the benefit of pig health and profitability. The potential for the veterinarian is that cleaning water supplies and maintaining clean water requires attention to detail to make it work, and the vet can help steer their clients to a successful outcome.

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Warwick.ac.uk/fac/sci/lifesc/wcc/resources/wateruse/livestockA comprehensive checklist from Warwick University

Pig Health and Innovation

Martin Barker, Midland Pig Producers Ltd.



Martin is Managing Director of Midland Pig Producers Ltd. he took over the company 15 years ago when it was losing £1m per year and had done so for 5 years. At the time he was also MD of several other companies within the same group and had a track record of profitable performance. He put in a team to turn around the fortunes of MPP and started to standardise and measure performance and soon MPP were producing the same number of pigs with 3000 sows as they were with 6000 previously. MPP has been largely profitable ever since, but Martin believes in the future meat will attract premiums from low carbon production in high welfare, hygienic indoor conditions. MPP has removed nearly all of its 1970 design buildings and is investing in new facilities harvesting heat, hydrogen, ammonia, water, nitrogen, phosphate, potash and meat, with no confinement and no mutilations.

Do your pigs only produce meat?

The old adage of 3kg of corn to produce 1kg of meat may be true, but other things are produced too, research in conjunction with Coventry University has shown there is 500kg of ammonia produced every day from 5000 finisher pigs (7kg to 115kg live-weight), which contains 90kg of Hydrogen worth £262,800 per year. Additionally work with Newcastle University shows there is 250kw of heat generated from the same 5000 pigs which we don't collect, worth over £400,000 per year. Sulphur can be extracted from biogas processing to create Sulphuric Acid. Some of the ammonia can be mixed with Sulphuric Acid to make ammonium fertiliser (Liquid Nitrogen at 20%N). Heat from Biogas generation can be used to evaporate the water from the slurry and the remaining solids can be pelleted to create phosphate and potash fertiliser, ideal for garden centres. In all its worth £1m on a 500 sow farrow to finish unit and we just let it go.

Partial Depop: A Case Study from Scotland

Jamie Robertson, Honorary Research Fellow, University of Aberdeen



Jamie Robertson, MSc., BSc.(Agr), MIAgrE., graduated in Agricultural Science from Aberdeen University in 1977 and went on to work on research and development projects examining the link between environment and animal health. He spent some time working at the SAC Centre for Rural Buildings and then the University of Aberdeen, with early studies focused on respiratory diseases. Jamie was the UK representative on the International Commission for Agricultural Engineering working group on animal house environments and spent nine years managing Scottish pig monitor farm projects, including two partial depops. He is the current Director of Livestock Management Systems Ltd and an Honorary Research Fellow at the University of Aberdeen and the University of Edinburgh Royal School of Veterinary Studies.

Partial Depop: A Case Study from Scotland

The before, during and after of partial depops on Scottish commercial pig units. The prime case is a 420 sow breeder finisher with performance 'good in parts', facilities 'good in parts', but with production issues that hurt. The unit was PRRS and M.hyo positive, and FCRs curbed by disappointing growth rates. Additional monitoring was set up to target the weaker areas of the unit and define the scale of the problem.

The project was not a smooth event, and the presentation will run through the lessons learnt for anyone else going down this route. The financial impact was stunning. In spite of some practical difficulties, the whole exercise paid back in 14 months and left an increase in partial budgets of more than £100,000 per year. Chronic losses are expensive, but normal, and there is always a strong case to examine the potential for partial or full depopulation of an underperforming herd.

Monitor Farm

The QMS pig monitor farm from 2012-2015 was a 420 sow farrowing to finish unit in Aberdeenshire, Scotland. The unit had excellent farrowing house performance and herd fertility was top 5%, but chronic issues were dragging down growth rates and FCRs to below average figures. Weaning to finishing mortality was hovering around 4%, and dlwg had dropped below 700g/d and was falling, leaving FCR creeping above 2.4. A major step towards making the decision to carry some kind of depop was to weigh four batches of pigs from weaning to slaughter, to identify the weaknesses and set targets for improvement (Table 1). Groups 1, 3 and 4 went through existing grower buildings, with group 1 on a new wet feed system. Group 2 was a batch taken through previously unused grower accommodation.

Table 1. DLWG of 4 consecutive groups of wean to finish pigs (n= 225-250/gp) pre-depop

		Group 1	Group 2	Group 3	Group 4
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5-35 kg weaners	Bottom 25%	457	454	525	459
	Middle 50%	514	509	581	525
	Top 25%	575	570	635	583
35-75 kg growers	Bottom 25%	776	844	698	661
	Middle 50%	836	924	773	734
	Top 25%	903	982	840	787
Wean to final weight	Bottom 25%	678	711	640	651
	Middle 50%	711	760	692	694
	Top 25%	753	806	723	725

The outcome of the monitoring process was that it became a lot easier to make an investment appraisal and make the decision to go ahead with a partial depop. The health and performance of the closed breeding herd was excellent (12.42 piglets weaned per sow) and retention of the sows was considered a positive option that supported a decision to go for a partial and not a full depopulation.

- There were two reasons for taking this decision;
 - 1) the continued decline in the finishing herd performance due to underlying health problems – PRRS /blue ear and EP;
 - 2) to take the opportunity to replace the current old straw based grower pens with a new build. Pig performance in the old grower pens was erratic with high feed use and waste.
- The timing was also good in terms of the pig cycle and the fact pigs were leaving a healthy profit margin.
- Tests showed the herd free from APP.
- The breeding herd performance was still good.

Assumptions in performance improvements resulting from the partial depop

	Current	Post depop
Pigs weaned /sow /yr	28.3	28.3
Pre-weaning mortality	11.5%	11.5%
dLWG (wean – finish)	620g	750g
FCR (wean – finish)	2.55	2.40
Lwt at sale	110kg	110kg
Feeding days	165	136
Post-weaning mortality	4.5%	3.5%
Feed use	260kg	245kg

General Assumptions

- The cost to undertake the cleaning & disinfection of buildings is neutral as pig staff are free from pig duties. No overtime work was required.
- The performance of the pigs moved to B&B accommodation is assumed to be the same as at home. There will be a check from pig movement & mixing but arguably this is offset by moving to clean buildings.

- Productivity will probably decrease further unless remedial action taken, and costs of action increase.

Table 2. Partial budget on partial depop

GAINS	£	LOSSES	£
Costs Saved:		Revenue Foregone:	
Reduced vet & med costs. Save 50p /hd @11,600hd (EP vac) Save £1,000 /mth in-feed medicat'n	17,800		
Extra Revenue:		Extra Costs:	
Improved FCR Save 15kg /hd @ 11,600hd = 174t feed @ av price £240	41,760	Medicating the sows & gilts Pigs vac & med (5-wks) Sow Blue ear & EP Vac	6,450 7,170 2,500
Improved DLWG Allows finishers to be kept to 116kg Lwt. → 12.5kg dwt @ 1.50 = £18.75. Marginal cost is only really feed (FCR 3.5:1) + 56kg @ £220 = £12.32. So margin £6 /hd	69,600	Disinfection, extra protective clothing, etc.	1,000
Reduced mortality (1%) = 116 extra pigs to sell pa. @ £12 margin	1,392	Rented B&B Accommodation £10 /head wean – finish	54,000
		Extra cost of purchased compound against home produced feed. 1,330t @ £12	15,960
		Additional transport costs @ 5,900 hd @ £1.50	8,850
		Extra hassle – Management time. 60 hrs @ £20	1,200
TOTAL GAINS	£130,552	TOTAL LOSSES	£97,130

There was not universal agreement on the financial figures on the impact of improved FCR releasing space that would allow pigs to be kept to a heavier weight. However, the partial budget indicated costs of the partial depop of around £100,000, and payback within less than 12 months.

As the depop and surrounding decision-making was also part of a QMS monitor farm project, there were useful group discussions with other pig producers and staff about various aspects of the proposals. Summaries of priorities are outlined below.

Round table discussions – summaries.

1. Partial Depop - Ensuring biosecurity success

- Motivate staff – get attitudes right
- Gate signage clear – keep gates shut
- Physical barriers, fencing required
- Deadstock disposal – off site with safe pick-up point.
- Vehicle disinfection on & off
- Loading bay on perimeter
- Keep livestock drivers off site/ within clearly designated space
- Limit visitors – ensure pig clean (2 days*)
- Provide showers in/out; clean clothing
- Use clearly defined CLEAN/DIRTY areas for people and equipment
- Competent vermin control
- Air filtering**
- Closed herd
- Limiting AI to one supplier
- Ensure complete health declaration from genetics suppliers.

*Note that due to significantly better general hygiene levels on/off Dutch and Danish farms, the 2 days pig-free is not necessary

** Scientific data from SPf transport demonstrates that aerosol transmission to/from livestock vehicles is not a significant risk.

2. Partial depop – Critical success factors

- Establish current health status – all disease risks
- Use vet to establish protocols, timings and medication plan
- Start planning early
 - gilt numbers - plenty
 - accommodation B&B
 - cleaning policy; especially older buildings
- Stick to agreed rules
- Communicate well with staff
- Ensure sows get correct medical treatment
- Ensure all sows eat every day, and use injection to cover poor eaters
- Review biosecurity – repeatedly
- Ensure biosecurity has realistic targets and is sustainable re. local risks
- Close herd – breed own replacements
- Manage expectations – vet & farmer

Sow numbers were kept static through the depop. although the age profile increased as gilts were kept off farm. There were plenty of gilts ready to be brought back onto the unit. Performance remained good in spite of all the other pressures on the unit staff and time, with numbers born alive, weaned per sow and weaned per sow/yr at the highest levels ever recorded at the farm. Some of this may well be due to the impact of medication of the sows in the last quarter of 2015, with the rest due to the detailed attention in the farrowing house

Sending the weaners for B&B was a revealing exercise. Firstly, growth rates jumped compared to pigs previously finished at on farm, mortality halved, and average feeding days dropped by 20-30 days. All were indicative of a move from old, constantly stocked buildings to sites that have been pig-free for more than a year. The downside was a less impressive change in FCR, partly due to pigs

kept on straw in a Scottish winter, but mostly related to poor quality management on some of the B&B sites and the selection and dispatch of finished pigs to the processor (overweights, overfat).

Health 1st check post depop

- Serology for PRRS showed low +ve titres on the first sampling (n=12) and negative on the second.
- Serology for M.hyo was negative for first and second sampling.
- There has been periodic sneezing in the weaners, and the unit tested for Swine Flu which later returned negative

Health check – one year on

- Vet carried out a number of blood test – all clear PRRS
- The latest report from the abattoir surveillance (Wholesome pigs) showed unit pigs to have zero lung scores for AP-like lesions and pleurisy
- Had 8 sudden deaths in one pen amongst big pigs (70kg). Unsure of cause, put samples into SRUC Vet labs for PM. Showed some signs of septicaemia, vitamin E deficiency and some clostridia infection. The pigs are not receiving any antibiotics now so maybe too clean and naïve. Things cleared up and no more deaths.

Health check – three years on

- Still all clear.

Biosecurity

This was a difficult issue. The unit has excellent facilities for keeping cars and visitors on the outskirts of the main set of buildings, and invested in a temporary structure to maintain a separate flow of people either towards the farrowing unit or towards the rest of the unit. A number of expected HGV deliveries take place into the middle of the unit, and driver behaviour towards biosecurity is highly varied, as it is for the various others who come on to the unit. The unit owner contemplated a barrier across the drive into the unit, but this was not carried out. The unit has an intrinsically safe location with no passing public traffic, but in reality there were glaring gaps in biosecurity at herd/site level that were not adequately managed by the professionals. They got away with it by chance, not competence.

Progress

First piglets were weaned post de-pop in November 2014. New building was not quite ready, so pigs went out of the weaner shed into the existing slatted finishing house which was clean and empty.

Table 1. Growth rates post weaning

Location	Liveweight	Duration	DLWG
	avg.kg	days	g/d
Weaner pool	n/a	47	565
Old Finisher - slats	n/a	60	864
Overall	87	107	733
Top 1/3rd	95	107	840
Weaner & New Build*	70	86	733

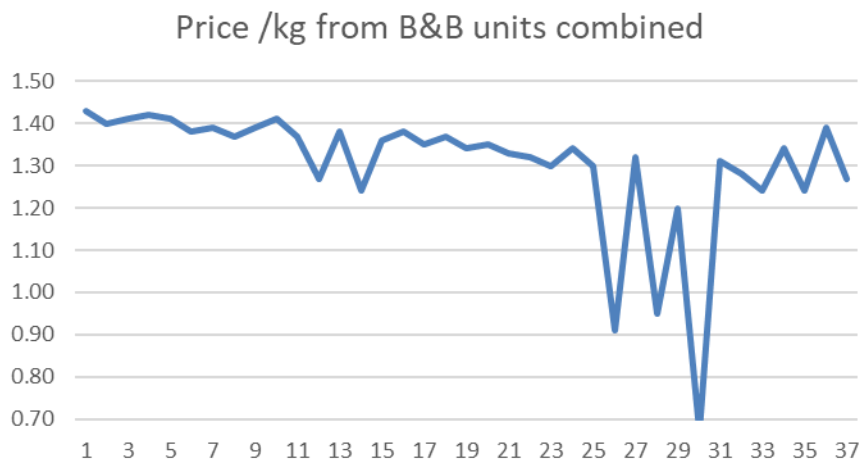
* First group of pigs into new grower shed, current growth rate

Bed & Breakfast Experience

The partial depop approach has the advantage of maintaining a regular cashflow, so that income is basically unchanged, however, costs are increased (B&B charge, higher feed costs, extra transport, cost of vaccination & medication).

- Pigs transferred out on to B&B units (n=7) from July – Nov 2014 (5,900 head)
- First 10 weeks mostly growers Av. 35kg LW
- Final 8 weeks weaners Av. 7.5kg LW (240 per week)
- B&B av. cost £10 per head (weaner – finished)
- B&B pigs first away fat from 3rd Oct 2014
- Undertaken analysis of finished B&B pigs in period 3rd Oct – 12th Feb '15, 4,545 head.

Figure 1. Price £/kg for each week of combined pigs from 7 B&B units.



Analysis of the 6 spikes in average price received from finished pigs, caused by overweights and overfat is shown in table 2, with an estimated loss before correction of liveweights of £28,925 from six batches of pigs. The challenges were to select the pigs in timely fashion when the growth rates were so much better than expected. Any delays in despatching pigs, for whatever reason, significantly increased the amount of penalties.

Table 2. Average price of finished pigs from B&Bs, compared with expected average price

<u>No</u>	<u>Total Wt</u>	<u>Av Price</u>	<u>Ex Price</u>		<u>Value</u>
203	19,109	1.27	1.37	0.10	£1,910.90
210	19,491	1.24	1.37	0.13	£2,533.83
30	2,965	0.91	1.31	0.40	£1,186.00
206	20,183	0.95	1.31	0.36	£7,265.88
198	17,529	1.20	1.30	0.10	£1,752.90
253	22,660	0.67	1.30	0.63	£14,275.80
1,100	101,937				£28,925.31

Lessons

- Management of pigs on B&B units is a challenge.

- Could sell pigs as weaners but v. difficult to find a market
- Two possible solutions; incentivise the units to weigh & mark pigs for slaughter or contract someone to select pigs for slaughter from all the units
- Incentivise B&B unit: extra +£3 per head for pigs in weight band 85kg -95kg dwt (110-125kg lwt). Penalty of -£10 per head any pigs over 95kg dwt.
- There is a need for someone to take on a management role for pigs on B&B units as part of a partial depop.

Measure, Decide and Go

The decision making required for the depop was made so much easier by gathering hard data and using an investment appraisal. Some choices were made which would not be repeated, whilst others such as the farm specific medications required, worked well. Whilst the medication programme was important and essential, the success of the whole process rested entirely on the people involved. The key people who deserve all the plaudits are Danny Skinner and his family and team at the unit, the unit vet Rachelle Grogan and external vet adviser Dr David Strachan. The initial pig weighing was also supported by ALLflex for the EIDs and Iain Lyle of Harbro. The QMS Monitor farm projects are supported by the Scottish Government.

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Pig Health and Innovation: What is stressing my pigs?

Martin Barker, Midland Pig Producers Ltd.



Martin is Managing Director of Midland Pig Producers Ltd. he took over the company 15 years ago when it was losing £1m per year and had done so for 5 years. At the time he was also MD of several other companies within the same group and had a track record of profitable performance. He put in a team to turn around the fortunes of MPP and started to standardise and measure performance and soon MPP were producing the same number of pigs with 3000 sows as they were with 6000 previously. MPP has been largely profitable ever since, but Martin believes in the future meat will attract premiums from low carbon production in high welfare, hygienic indoor conditions. MPP has removed nearly all of its 1970 design buildings and is investing in new facilities harvesting heat, hydrogen, ammonia, water, nitrogen, phosphate, potash and meat, with no confinement and no mutilations.

Stress Reduction

Stress costs money, performance increases if stress is reduced, that's true in many situations including pig production. Put 1000 sows to the boar and 1000 could give birth, if there is no stress in the system, but potentially a sow that performs well in one system may well not perform well in another. If a sow is kept in stalls and gives birth to 16 piglets we keep the gilts to breed from, if another sow gives birth to 8 piglets we sell the lot. It's likely the sow with 16 piglets is not stressed by the system, you could say she likes it, she might well be agoraphobic and anti-social. Put her in a loose house situation and she may well only produce 8 piglets per litter. The sow that was not performing well in stalls may well enjoy the social environment of loose housing and produce 16 piglets.

Find every stress in intensive indoor pig production and measure it by improving performance and it will pay real rewards. If 1000 sows farrow from 1000 served, there is very little or no stress on the farm, similarly maximum growth rate can only be achieved without stress. Taking it to its conclusion, if growth rate is good enough you can leave the tails on, if not you are not performing at the optimum. We now know the optimum group size that the pigs want to be in, we know what light colour they prefer to sleep in and what colour they prefer to eat in, we also know they prefer a different temperature in the toilet area than the sleeping area etc. If you get it right the pigs grow much faster. We did not do this to please anyone, we did it because it pays, but if animal welfare groups like it, all the better.

Positive Pig Production

Gary Pepper

Gary Pepper is a farmer based Caldry, Cootehill Co. Cavan where he is married to Sinead and they have two children Jude and Jessica. Having graduated from Ballyhaise Agricultural College, Gary started working on his father's Dairy and Pig farms in 2004. Six years later, he took over the Piggery business and expanded his farm to 500 sows. Over the last 8 years, Gary has pushed production into the top 10% in Ireland and more recently he invested into home milling.

I will give a detailed account of my farm plus a good account of how we manage the farm on a daily and weekly basis. I will also discuss pig farm performance and how we have managed to maintain pig performance in the top 10% of Teagasc recorded pig farms in bad times like a poor pig price or when disease hits the farm.