



Editor: Amy Quinn

Welcome to December's Newsletter

Ciarán Carroll



Welcome to the December edition of our monthly newsletter. As we come to the end of another year we can finally reflect on what has been a good year for pig production in Ireland. The recent slip in pig prices is very disappointing but hopefully they have stabilised now and we can look forward to more reasonable prospects for 2018. Data presented by Michael McKeon at the recent Teagasc Outlook seminar indicate that pig price is expected to average at 152 cent per kg deadweight for the year (down 6% on 2017) with little change in feed costs giving an expected margin over feed for 2018 of 48 cent per kg deadweight.

The end of year also provides us with an opportunity to review our herd performance and management practices. What did we achieve over the past 12 months? Were we on target with the goals we set out this time last year? If not, why not? What can we do next year to achieve these goals? Think about it, write it down and monitor progress on a monthly basis. Are

investments needed? What should I prioritise? Can I avail of grant aid under TAMS for any of these investments?

It's been a very busy year for the Pig Development Department, with great progress continuing in our research, advisory and education programmes, and some new projects to commence in early 2018.

Finally, from all in the Pig Development Department I'd like to wish you and your family a happy and peaceful Christmas and here's to a prosperous new year.

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Wasting Feed? Wasting Money!

Tomás Ryan

It is no surprise that feed accounts for roughly 70% of the input costs in running a unit so misuse can have a serious impact on your bottom line. I won't be reinventing the wheel on any areas highlighted but I do feel complacency can set in from time to time in units especially with feed and hence it's an area worth reviewing periodically.

Looking at some basic numbers it's easy to see how small volumes of feed can quickly add up to large financial losses. It is estimated that approximately 10% of the feed delivered to a farm is wasted; perhaps a better term for this material is feed never utilised for pig growth. After all that is why we bring feed in, in the first place. If we take a typical fully integrated 500 sow unit this can work out at about 300-350 tonnes per year.

By far in any commercial unit the greatest volume of feed is used in the finisher section; this area typically accounts for 60% of a unit's feed cost. A 500 sow unit with 20 pigs per pen may have in the region of 150 finisher feeders. Each feeder in this area should be viewed by the unit owner as an ATM machine leaking money down the slats! If we concede that at each feeder pigs under-utilise or waste just 5% of the feed that comes through the feeder let's see how the numbers stack up in terms of money lost. The through-put of each feeder may be in the region of 15 tonnes per year. This is a total feed volume of approx. 2,250 tonnes per year. This would equate to about 112 tonnes of feed wasted, and at today's prices

works out at about €30,000 lost. In terms of kilograms of pig meat produced this waste cost is adding about 3 cent per kilogram produced onto your production costs. This figure could be doubled in some units/areas I suspect.

Delivery systems and feeders need to be constantly checked and calibrated in order to ensure they are working correctly. Any feeder that is old or not in good repair should be replaced. I am a firm believer that in order to save money you have to spend money. In taking the figure above of €30,000, if a third of this amount was re-invested year on year in the unit by replacing old feeders and covering extra personnel time in supervision of feeders and areas of significant waste, it would yield quite a healthy return for the investor in reduced feed waste.

It is imperative that staff know what to look for when inspecting a feeder for waste. At least 50-75% of the bottom of the feeder should be visible and free from feed at any time. A feeder should be adjusted and inspected every day. It is not acceptable that feeders should be allowed over fill, just ensure that pigs have "sufficient" feed. A build-up of feed will go stale fast and in this instance the pig will thank you by using the feed for everything but growth and deposit large quantities of feed into the slurry tank. Now you have to spend money spreading the feed as well as purchasing it. Every stockperson should know how to correctly adjust and inspect every feeder

on the farm and should be competent in doing so.

Feeder location is also very important in a pen. If it is located in a draughty corner or opposite the pig's water supply fouling of the feeder may be a regular occurrence. Feeders should not have to be cleaned out on a daily basis only adjusted for feed flow; if this is happening the feeder should be relocated to a more suitable area of the pen.

As stated at the outset nothing new was going to be uncovered by this quick review on feed wastage. However it still occurs in massive volumes in every unit throughout the country

every day and it is the very first place you can make an instant difference to ever increasing tight profit margins on your unit. Take some time early in the New Year to thoroughly inspect all feeders on your unit and make arrangements to repair and replace any aged ones. Keep a close eye on feed pipes supplying these feeders as well for cracks or damage which may not be routinely visible. Keep on top of your vermin control plan also. You may not think it but a single mouse will eat about 5 grams of feed per day. A thousand mice over a year will eat almost 2 tonnes of feed alone. Remember routines are extremely important in pig production but they must never become habits!

Rearing Pigs with Intact tails: An Overview of Existing Regulations & the 2017 European Commission Meeting

Amy Quinn

A three day event was organised by the European Commission (EC) from the 28th to the 30th of November on rearing pigs with intact tails aimed at industry stakeholders, the competent authorities of EU Member States (e.g. DAFM), researchers, and NGOs. The presentations, videos and discussions focused on the objectives and plans of the EC, the practicalities of rearing pigs with intact tails and how to assess and manage the risk factors for tail biting and tail docking. The meeting provided valuable insights into reducing the need for tail docking from the perspective of farmers, researchers, member state competent authorities and other industry stakeholders.

EU Directive 2008/120/EC

To begin with it's appropriate to provide a reminder of the details of the EU Directive (Dir

2008/120/EC) on the minimum standards for the protection of pigs as this was the basis for the meeting. This directive states that on all farms in EU member states;

"Neither tail-docking nor reduction of corner teeth must be carried out routinely but only where there is evidence that injuries to sows' teats or to other pigs' ears or tails have occurred. Before carrying out these procedures, other measures shall be taken to prevent tail-biting and other vices, taking into account environment and stocking densities. For this reason inadequate environmental conditions or management systems must be changed."

In addition, the directive also states that;

"pigs must have permanent access to a sufficient quantity of material to enable proper investigation and manipulation activities, such as straw, hay, wood, sawdust, mushroom compost, peat or a mixture of such, which does not compromise the health of the animals."

If tail docking is being conducted on a farm it is important to note that the requirement for "evidence" is specified in the directive; therefore recorded evidence of tail biting of pigs with intact tails or sow teat damage is required in order to be allowed to tail dock or reduce corner teeth of piglets on the grounds of animal welfare. The record should be in a formal physical format as verbal description and a statement issued by a farm private veterinary practitioner alone is not sufficient. This record should include the specific details of the pigs involved, the dates, the frequency (i.e. number of pigs affected) and a record of action taken to remedy the situation before docking/teeth reduction was deemed to be the only solution.

A record of the "other measures" taken to prevent tail biting (e.g. reduced stocking density, additional enrichment) should also be recorded; this includes the details of what the measure was, how it was implemented and what the effect was.

The EC will be carrying out missions throughout 2018 to review the progress of Member States in relation to the implementation of the Directive. The countries to be visited in 2018 have not yet been determined, aside from Germany which will be visited in early 2018; the remaining countries will be informed at a later date.

The EC are also asking all member states to put together a concrete action plan to send to the EC by January 2018. This action plan should detail clear objective, timelines and details of activities, controls and enforcement which will bring about compliance with the directive as well as risk assessment strategies and farm improvement measures. Action plans containing research or disseminations only will not suffice.

EC Meeting on Intact tails

The meeting presented information from the EC, researchers, competent authorities, farmers as well as other industry stakeholders. The objectives of the meeting were to:

- Explain EC objectives
- Provide an update on Member States' implementation of Dir 2008/120/EC
- Clarify what EC expects of Member States' action plans
- Provide a platform for sharing best practice and exchanging of views

The EC presented Preliminary feedback from their audits conducted in 2017 and feedback on Member States' implementation of the Directive and the current expectation and plans of the EC in relation to the directive were outlined. Research was presented of on-going research in the area as well as a presentation by the GROUHOUSENET working group. A number of competent authorities presented their action plans to reduce tail biting and avoid the need to tail dock and examples of on-farm risk assessment protocols in use in some Member States were explained. Additionally results of veterinary attitudes to rearing pigs with intact tails were presented. Funding possibilities for changes to housing/ management were also discussed.

The use of welfare assurance/marketing schemes, which included rearing pigs with intact tails, in some member states or regions were described such as the RSPCA approved scheme in the UK, The Curly Tails Project in Saxony, Germany and the Three Heart scheme in Denmark, with premiums being provided to farms that are compliant with these schemes.

Pig farmers from Germany, Denmark, Sweden, Finland and Italy presented on how they manage their farm to rear pigs with intact tails. Many supplemented their presentations with photos and videos from their farms. The farmers explained the transition period, highlighting some of the challenges they faced and how they overcame them.

The importance of appropriate environmental enrichment was highlighted by all. Many rearing pigs with intact tails highlighted the need to have access to straw in some form and the use of straw racks was common in slatted systems. They also mentioned that the use of straw in racks on fully slatted floors was not the manure management issue it was anticipated to be. They also emphasised the importance of good quality straw and described how they gradually learned to overcome the initial problems regarding the frequency of replenishment, the use of chopped straw and positioning of the straw rack above the troughs rather than slats to prevent straw wastage and tank issues.

In spite of their successes in rearing pigs with intact tails most producers admitted that occasional outbreaks of tail biting still occur and in such cases the use of emergency enrichment, which is additional enrichment above that usually

provided, is useful at disturbing outbreaks as it provides additional stimulation to the biter pig(s). This works best when the material was something they have never seen before.

Most producers listed generous stocking density as being important to success in rearing pigs with intact tails, although some successfully raised fully intact tailed pigs with stocking densities similar to the minimum requirements set out in the directive. However it is clear that overcrowding is a major risk factor for tail biting and that it is impossible to rear pigs with intact tails unless pigs are at least not stocked at higher densities than these minimum requirements.

One the greatest challenges faced by farmers transitioning to intact tails was the new and additional skills required by staff. Staff had to learn how to; identify indicators of issues before outbreaks occurred, deal with bitten and biter pigs and identify the root cause of this often multifactorial issue. The key to over-coming this was found to be staff training and time.

As tail biting is a multifactorial problem it requires a multifactorial solution. Hence adequate environmental enrichment and stocking density alone are insufficient. Other environmental factors are crucial to success in rearing pigs with intact tails including optimal air quality, ventilation, lighting, noise, water provision and feed provision. In some countries producers appeared to be able to rear pigs with intact tails under a variety of feeding systems but in others (e.g. Finland) the importance of long troughs, and pens where all pigs can feed at the same time and competition is minimised was emphasised. Finally, having a high health statuses and biosecurity standards are vital.

Some key advice from the farmers was not to give up initially as transitional problems are to be expected and sometimes ideas may not work but appropriate training, patience, experimentation and good monitoring will eventually achieve success.

The most often repeated message throughout the meeting was the important role that the intact tail has become in informing stock persons about pig health and welfare. The producers described how the presence of pigs with low, hanging tails in a pen is now an immediate and easily identifiable indication that something is wrong with the pigs' environment, health or welfare. Docked tails can never act as such an early warning system! Therefore an intact, curly tail is a reliable indication that all is well with your pigs!

Available material

The EC have made a number of documents available relating to rearing pigs with intact tails on farms, that are essential reading. In 2016 the EC published the recommendation (EU) 2016/336 with an accompanying staff working document which provides additional practical guidance and useful tools for the effective provision of enrichment material and avoidance of tail-docking. This document is available at:

https://ec.europa.eu/food/sites/food/files/animals/docs/aw_practice_farm_pigs_stfwrkdoc_en.pdf

Presentations and videos from presented at the 3 day meeting are available online at:

<https://circabc.europa.eu/w/browse/ebdc9369-a210-4b17-aabf-e82e71a0c7ae>

Additionally, you can listen to the presentations and discussions recorded each day at:

- 28th November:
<https://webcast.ec.europa.eu/rearing-pigs-with-intact-tails-in-europe2017nov28>
- 29th November:
<https://webcast.ec.europa.eu/rearing-pigs-with-intact-tails-in-europe2017nov29>
- 30th November:
<https://webcast.ec.europa.eu/rearing-pigs-with-intact-tails-in-europe2017nov30>

In addition the EC have made further material available online. Part of this is a series of factsheets called "Cutting the need for tail docking" which go through six factors that are known to influence tail biting risks and they provide tips on how to minimise or prevent it based on the experience of farmers who are successful in tackling this issue. The other material consists of two videos of farms titled "Reducing tail docking – best practice", videos of Finnish and Italian commercial pig farms which describe how rearing pigs with intact tails was made possible on their farms. These materials are available at;

https://ec.europa.eu/food/animals/welfare/practice/farm/pigs/tail-docking_en

It is extremely worthwhile for all pig producers and staff to read and watch the available material to become best equipped with managing pigs with intact tails in order to comply with these regulations.

Review of Pig Sector in 2017 & Outlook for 2018

Michael McKeon

In the last two years (2016-2017) the Irish pig industry has experienced higher than average profitability. This has been due to low/stable feed prices and high pigmeat prices in the sector. Although in March 2016 the 'Margin-Over-Feed' was at its lowest in five years it then rapidly improved to generate an annual average of 43c/kg in 2016 and 58c/kg in 2017.

Irish Pig Feed Costs 2017

Feed prices were largely stable in 2017. The large global harvests in 2014-2017 ensured that world stocks were high and therefore prices remained modest. The 2017 composite feed price per tonne is estimated to be €289, virtually unchanged when compared to 2016 (€291).

When the composite feed price is examined over a longer period the 2017 price of €289 is lower than the 5 year average (2013-2017) and 10 year average (2008-2017) of €311 and €298 respectively. Annual Irish composite pig feed prices are shown in Figure 1, expressed in terms of the cost per kg deadweight (dwt).

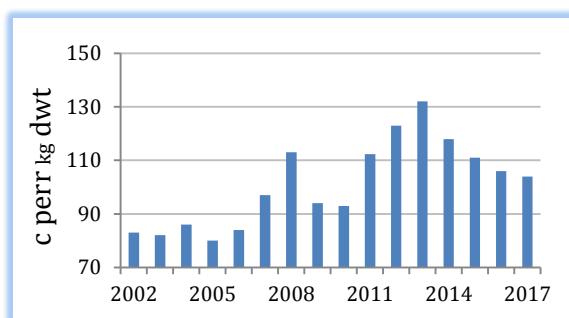


Figure 1: Irish pig feed cost 2002-2017

Source: Teagasc Pig Department

The annualised feed cost of 104 cent per kg dead weight is lower than the five year average (114c/kg). The highest feed cost in recent years was 2012 at 132c/kg this is 27% higher than 2017.

Non-feed costs in Irish Pig Production in 2017

There are currently 90,000 sows on the database from a national herd of about 153,000 (63% of total). The costs quoted are based on the national 2016 ePM data, which are the most recent analysis of annualised costs available. Non-feed costs are itemised in Table 1.

Table 1: Non-Feed Costs in ePM Recorded Herds

| Cost Item | 2016 | 2012-2016 |
|--------------------|------------------|-------------|
| | cent per kg dwt. | |
| Healthcare | 6.2 | 6.4 |
| Heat, Power Light | 4.2 | 4.2 |
| Transport | 1.2 | 1.2 |
| AI | 1.8 | 1.8 |
| Manure | 1.5 | 1.6 |
| Labour/Management | 13.3 | 12.7 |
| Repairs | 2.2 | 2.4 |
| Phone/Office | 1 | 0.8 |
| Environment | 0.4 | 0.5 |
| Insurance | 0.9 | 0.8 |
| House rental | 1.3 | 1.2 |
| Contract Costs | 1.5 | 1.5 |
| Water | 0.4 | 0.4 |
| Dead Pigs Disposal | 0.7 | 0.7 |
| Stock Depreciation | 1.8 | 1.7 |
| Miscellaneous | 1.2 | 1.3 |
| Total | 39.6 | 39.0 |

Source: Teagasc ePM Report 2016

Financial Costs in Irish Pig Production in 2016

These costs include interest payments and building depreciation and vary greatly from unit

to unit depending on the age of the unit and the level of capital investment undertaken in the business in recent years. Financial costs are itemised in Table 2.

We estimate that the cost of building depreciation and interest is significantly lower than the true level required for a healthy pig industry. This reflects the sector's reduced capital investment in recent years due to the low profitability of the industry.

Table 2: Financial Costs in ePM recorded herds

| Cost Item | 2016 | 2012-2016 |
|-----------------------|------------------|-----------|
| | cent per kg dwt. | |
| Interest | 1.7 | 1.8 |
| Building Depreciation | 4.9 | 4.2 |
| Total | 6.6 | 6.0 |

Source: Teagasc Pigsys Report 2016

Total Cost of Irish Pig Production in 2017

The estimated annualised cost of production in 2017 (based on 2016 non-feed costs and 2017 feed costs) was 150.2 cent per kilogram dwt for pigs delivered to the slaughter plant.

Irish Pig Prices in 2017

The estimated average pig price in 2017 was 162 cent per kg dwt, which was marginally higher than the five year average (2013-2017) of 160.4 cent per kg dwt.

The annualised 2017 pig price was 13 cent (8%) higher than in 2016, but this average hides large fluctuations. The lowest monthly price in 2016 was 134c/kg (March) and the highest price in 2017 was 172c/kg (July), a 22 percent increase within 18 months.

Table 3: Monthly Irish Pig Price in 2017

| Month | Pig Price |
|-----------|-----------------|
| | Cent per kg dwt |
| January | 158 |
| February | 162 |
| March | 162 |
| April | 167 |
| May | 167 |
| June | 169 |
| July | 172 |
| August | 167 |
| September | 162 |
| October | 157 |
| November* | 153 |
| December* | 149 |
| Average | 162 |

Source: Teagasc Pig Department * Estimate / Forecast

Fortunately for European producers, the Chinese sow herd contracted dramatically in 2015 and 2016, with an estimated 12 million sows being culled, which is equivalent to the total EU herd. This resulted in the domestic Chinese pig price escalating to the equivalent of \$300/head and triggered a surge of imports into China. The pig price recovered across Europe in the latter half of 2016 to generate an annualised price similar to 2015. In the first part of 2017 the price rise continued until it reached a peak in July 2017. From July-Dec 2017 the E.U. pig price has decreased due to three factors; reduced Chinese pigmeat import volumes, increased U.S. competition due to reduced use of the growth promoter "Paylean" and the euro exchange rate reducing our competitiveness.

Profitability of Irish Pig Production in 2017

The margin over feed cost was 58 c/kg per kg dwt in 2017, the highest since 2006 and a 35% increase over 2016.

Table 4: Average Margin over Feed Costs from Compound Feed from 2009-2017

| Year | Pig Price (Net) | Feed Cost | Margin over Feed |
|-------|-----------------|-----------|------------------|
| | Cent per kg dwt | | |
| 2009 | 145 | 94 | 51 |
| 2010 | 140 | 93 | 47 |
| 2011 | 151 | 112 | 39 |
| 2012 | 166 | 123 | 43 |
| 2013 | 176 | 132 | 44 |
| 2014 | 167 | 118 | 49 |
| 2015 | 148 | 111 | 37 |
| 2016 | 149 | 106 | 43 |
| 2017* | 162 | 104 | 58 |

Source: Teagasc Pig Development Department *Estimate

When the 2017 margin over feed (MOF) is compared to the average margin over feed of the last five, ten, fifteen, and twenty years (see Table 5) the difficult trading conditions and low profitability of recent years becomes clear.

If an average MOF of 50 cent per kg is the estimated requirement (by Teagasc Pig Dept.) to meet all production costs including financial repayments then the 58 c/kg achieved in 2017, exceeds this target for the first time in 5 years. The low margin in the previous five years (46 cent per kg dwt) requires this higher margin to be retained in order to further reduce accumulated feed credit debt and improve the quality of building structures in the sector.

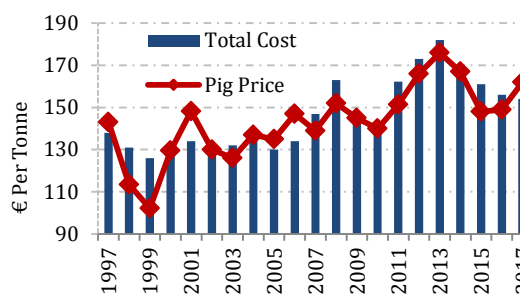
Table 5: Margin Over Feed in 2017 compared to the 5, 10, 15, and 20 year average

| | Margin Over Feed | % Diff. |
|---------------|------------------|---------|
| | cent per kg/dwt | |
| 2017* | 58 | - |
| 5 Yr average | 46.2 | +26 |
| 10 Yr average | 45.0 | +29 |
| 15 Yr average | 47.0 | +23 |
| 20 Yr average | 46.2 | +26 |

Source: Teagasc Pig Development Department *Estimate

Figure 2 illustrates the pig price received when compared to the total production cost (feed plus 50 cent) since 1997.

Figure 2: Pig Price compared to estimated Total Production Cost



Source: Teagasc Pig Development Department 2017 is an estimated value

Irish & European pig numbers in 2017

The estimated number of pigs slaughtered is illustrated in Table 6.

Table 6: Irish born pigs slaughtered: 2012-2017

| Year | 2014 | 2015 | 2016 | 2017 |
|----------------|--------------|------|------|-------|
| | million head | | | |
| Slaughter Pigs | 3.5 | 3.65 | 3.63 | 3.72* |

Source: Teagasc Pig Department *estimate

The number of Irish pig disposals in 2017 is estimated to be 3.72 million pigs which is marginally higher than in 2016, and continues the upward trend of the last few years. This is a

reflection of the increased number of pigs born alive in the national herd and the improved national herd health.

Table 7: Slaughter and Live Export to N. Ireland of Irish Born Pigs from 2007-2017

| Year | Licensed Plants in Ireland | Export | Exports to Northern Ireland | Exports as % of Total |
|-------|----------------------------|--------|-----------------------------|-----------------------|
| | million head | | | % |
| 2007 | 2.570 | | 0.512 | 17% |
| 2008 | 2.511 | | 0.457 | 15% |
| 2009 | 2.363 | | 0.482 | 17% |
| 2010 | 2.601 | | 0.558 | 18% |
| 2011 | 2.847 | | 0.610 | 18% |
| 2012 | 2.907 | | 0.612 | 17% |
| 2013 | 2.829 | | 0.570 | 20% |
| 2014 | 2.940 | | 0.519 | 18% |
| 2015 | 3.132 | | 0.514 | 16% |
| 2016 | 3.221 | | 0.414 | 13% |
| 2017* | 3.295 | | 0.433 | 13% |

Source: DAFM & DARDNI *estimate

The export of Irish born pigs to Northern Ireland (NI) stabilised during 2016 but continued at a lower level than in recent years. Since 2012 the annual number of pigs exported to NI has decreased by an estimated 180,000 pigs per year.

The trend of falling European pig slaughter disposals in 2016 was continued during 2017 in Germany, Denmark and the Netherlands as illustrated in Table 8.

EU Pigmeat Exports & Imports in 2017

The export of pigmeat products from the EU decreased in 2017 by 10% (Jan-Aug) but this is in response to a previously unsustainable increase in 2016 of 33 percent as shown in Table 9. The reduction is due to reduced Chinese imports

volumes and increased competition from the U.S. and Canada.

Table 8: European & N. American Pig Disposals

| | 2016* | 2017* | Change |
|-------------|--------------|-------|--------|
| Country | Million head | | % |
| Germany | 42.1 | 41.8 | -0.6% |
| Spain | 32.6 | 32.6 | 0% |
| France | 15.7 | 15.3 | -2.5% |
| Denmark | 14.6 | 13.8 | -5.4% |
| Netherlands | 12.1 | 12.4 | 2.1% |
| UK | 8.1 | 7.7 | -4.8% |
| Total | 125.2 | 123.6 | -1.3% |
| U.S. | 95.9 | 98.7 | 2.9% |
| Canada | 16.8 | 17.1 | 1.6% |

*Based on 42 weeks of production
Source: MPB 2017

Table 9: Pigmeat exports from selected countries

| Country | 2016 | 2017* | change |
|---------|----------------|-------|--------|
| | million tonnes | | % |
| EU | 2.75 | 2.48 | -10 |
| USA | 1.48 | 1.61 | 10 |
| Canada | 0.81 | 0.86 | 6 |
| Brazil | 0.47 | 0.54 | 15 |
| Total | 5.51 | 5.49 | -0.4 |

Source: MDP * Jan-Aug 17

Outlook for the Irish Pig Market in 2018

The outlook for the pig market is a reflection of global pig feed and pig price trends.

Irish Pig Feed Price Outlook in 2018

The estimated composite compound pig feed price in December 2017 is €288 per tonne. The bumper global harvests in 2015-2017 have resulted in very healthy stock-to-end use percentages for wheat (36.2%), maize (19.1%) and soyabean (28.4%) (WASDE Dec. 2017). These

copious stocks should ensure stable prices until mid-2018, whereupon the progress of the autumn harvest 2018 will dictate prices for the end of 2018 which may see a very moderate rise (3-5%). The recent BASF fire in Germany will moderately increase vitamin prices in early 2018 but this should ease as the year progresses. The other risk is the lowest level of US wheat planting in 100 years in response to the excess global stocks. A difficulty in the wheat growing season may put some upward pressure on prices despite the huge global stocks.

The South American soyabean harvest is currently being planted with Brazilian production quantities of 109 million tonnes forecast, which would be slightly lower (-4%) than the previous harvest but still the second largest Brazilian harvest ever. While this should dictate low soyabean prices in 2018, it is expected to be offset by higher Chinese imports of 93 million tonnes. The outlook for soyabean prices therefore is for little change, provided normal weather conditions prevail.

This would indicate that the composite compound pig feed price will move upwards but only marginal change is expected, in the range of €288 to €298 for 2018.

Irish Pig Prices in 2018

The return to stability of the EU sow herd in 2017 and increased sow prolificacy, will increase the supply of European pigs - estimated at 2.0 to 2.5 percent. This increased EU volume on the market, with record increases in US slaughter volumes and negative Euro exchange rates will provide an increased degree of export competition in 2018.

Irish and European pig prices will be significantly influenced by the level of Chinese pigmeat imports in 2018. The Chinese sow herd had stabilised in early 2017 but recent reports indicate renewed high culling rates as part of a final translocation program to move their pig herd to their 'bread basket' in the tillage regions in the north east of the China. Local government appear to be anxious to ensure that only pig units that meet stringent environmental standards will be licensed to re-open in the heavily industrialised restricted zones.

This renewed sow cull will produce a deficit of pigmeat on the domestic Chinese market and the shortfall will continue to be filled by European and American exports. This should reduce the extra volume of pigmeat overhanging the European market. However, although Chinese import volumes may continue buoyant, intense international competition from the U.S. and Canada may see Europe's Chinese exports further decline.

Overall, the pig price will remain robust but weaker and a 7 per cent decrease in the annual pig price is forecast for 2018.

Profit Margin in 2018

If the current composite feed price remains largely unchanged until the latter half of 2018 and the pig price is lower for 2018 (due to extra supplies and Chinese import competition), then there will continue to be a profitable margin for Irish pig producers in 2018. However the margin is unlikely to be as high as 2017 and more in line with 2015 returns.

Liquid Feeding Overview

Fiona O'Meara

Up to 70% of Irish pigs are liquid fed. However, contrasting results have been published on the production advantages and potential of liquid, dry and wet/dry feed delivery systems. Management of liquid feeding systems has a big impact on pig growth and feed efficiency. Moorepark is currently comparing pig growth and feed efficiency on dry, wet/dry and liquid feeding delivery systems using feed in meal and pellet feed form.

Firstly, let's recap on the advantages and disadvantages associated with liquid feeding.

Advantages:

- Use of liquid and dry by-products from industry
- Higher growth rates and feed intakes
- Health benefits such as a reduced incidence of ulcers compared to dry-fed pigs
- Allows easy adjustment of feeding curves and timing of meal splits
- Ability to manipulate feeding value of the diet with enzymes and microbial inoculants

Disadvantages:

- Larger volume of manure produced from liquid-fed pigs over dry-fed pigs
- Transport and handling costs associated with liquid by-products must be weighed up against their use
- Availability of liquid by-products
- Poorer feed conversion efficiency over dry-fed pigs
- Increased feed wastage

- Meal is generally used for liquid feeding which is generally lower in digestibility than pelleted feed
- Feed spoilage: uncontrolled fermentation can occur in liquid feed which can be detrimental to feed quality if undesirable bacteria proliferate

Long vs short trough liquid feeding – are you managing your system correctly?

Long and short-trough feeding systems cannot be managed with the same set of guidelines. Long-trough liquid feeding systems are a restricted feeding method and should allow all pigs in the pen to eat simultaneously. There should be one feeding space at shoulder width for every pig in the pen. Distinct meals are delivered and troughs should be emptied within 20-30 minutes of feeding. Wastage must be monitored with these systems as corners and lips of troughs can become proliferation areas for undesirable bacteria.

Short-trough systems are an *ad-libitum* feeding method and are fitted with sensors for this purpose. They typically have one feeding space per 3 or 4 pigs, although this will depend on the model of system, trough design and sensor height and location. Younger pigs prefer to eat together so this should be taken into account when assigning pig numbers to troughs. Sensors should be monitored closely at all times to ensure they are functioning correctly. With this system there must always be feed in the trough.

Feed curves and splits

Feed curves are extremely important in long trough restricted feeding systems. A steady increase of feed allowance per pig is required. However, it is important not to provide too much feed and cause feed wastage. Given the *ad-libitum* nature of short-trough feeding systems, feed curves are less important. However, regardless of which system you use, ensuring your pigs reach their target daily feed intake at each stage of growth is vital.

Feed splits are also important and research suggests that there are two peak intake periods in group-housed pigs which are in the morning and early afternoon. Therefore, the majority of feeds should be offered during day-time hours to match pigs' natural feed intake pattern and this practice also allows for more frequent feeding supervision.

Water:meal ratio

Many Irish producers still use excessive water:meal ratios which can have a detrimental effect on pig growth and efficiency. If an unnecessarily high ratio is used, pigs will have higher gut fill and consequently waste energy heating up this ingested cold water. This also leads to increased manure volumes being produced.

Recent research in the area is limited so recommending an water:meal ratio with modern genotypes and feeding system management is difficult. However, a recent survey revealed that some Irish producers are still using ratios as high as 4:1 which is detrimental to pig growth and

efficiency. From the limited data available, the optimum water:meal ratio lies between 2:1 and 2.5:1 on a dry matter basis. Above this ratio, producers cost themselves money in slurry handling costs and animal performance.

Keep the following in mind to get the most out of your liquid feeding system:

- Manage your long or short trough system correctly
- Don't use an excessive water:meal ratio
- Ensure your feeding curve is not restrictive, however, do not over-feed and cause feed wastage
- Feed the majority of pigs' requirements during the day
- Ensure all liquid-fed pigs have access to a separate, clean water supply at all times
- Analyse by-products on a regular basis to verify consistency
- Weigh up all costs of using liquid by-products
- If feeding young piglets, feed small quantities little and often to avoid spoilage and proliferation of undesirable bacteria

In conclusion, producers should aim to:

1. Keep water:meal ratio as close to 2.5:1 as possible
2. Ensure you manage your particular system correctly (long or short trough)
3. Run a cost-benefit analysis to ensure using by-products is financially beneficial for your production system. Include all capital, production and transport costs associated with using by-products

Student Profile

Fiona O'Meara

Fiona is an postgraduate student on the WETFEED Project, which looks at optimising liquid feeding for increased growth & improved feed efficiency in grow-finisher pigs. Fiona is supervised by Dr. Peadar Lawlor (Teagasc), Dr. Gillian Gardiner (WIT) and Prof. John O'Doherty (UCD).

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EAAP Award

PDD PhD student Alessia Diana's work was awarded for the best oral presentation of the PLF (Precision Livestock farming) session at the 68th EAAP conference held in Tallinn (Estonia) from the 28th of August to the 1st of September. The research, carried out in collaboration with KU Leuven (Belgium) and the University of Milan (Italy), aims to identify reliable indicators (e.g. visual behaviours and vocalisations) to be used for the development of an algorithm and the further automatic monitoring system (PLF tool) in order to monitor ear biting damaging behaviour in real-time and continuously. Ear biting is reported as a growing problem on commercial pig farms; however, few indicators of this welfare issue have been researched. Hence, the availability of PLF technologies may help to clarify and detect this issue.

Bord Bia Animal Health & Welfare Working Group

PDD researcher Laura Boyle was appointed to the newly established Bord Bia Animal Health and Welfare Working Group. With growing focus on the animal welfare component of quality assurance programmes it is essential that any standards meet consumer/purchaser expectations and are underpinned by transparent, robust indicators of animal welfare. The first meeting of this group was held last September where it was agreed that the case for including additional animal welfare goals in Bord

Bia's standards would need to be fact based, supported by science, practical and where possible have a benefit for the producer, whether in achieving higher premiums or in increased access to markets.

BBSRC panel of experts

PDD researcher Keelin O'Driscoll was recently appointed to the UK Biotechnology and Biological Sciences Research Council (BBSRC) Pool of Experts (Animal Welfare), until 31 March 2021. The BBSRC is one of seven research councils in the UK, and in 2016-2017 invested £469 million in world-class bioscience, supporting around 1600 scientists and 2000 research students. Members of the pool of experts play a key role in delivering this output through assisting in the assessment of research grant applications, and identifying the highest quality research for investment. Membership of the pool also provides excellent opportunities for broadening professional networks, learning about the processes used in evaluation of grant applications, and what makes a successful application.

Dates for your Diary

The 2018 IPHS Symposium will take place on Tuesday April 10th at the Slieve Russell Hotel Golf and Country Club, Co. Cavan.



For More Information

This newsletter was edited by Amy Quinn, Pig Development Officer, Teagasc Moorepark, Fermoy, Co. Cork. For more information on any of the newsletter content please contact Amy at amy.quinn@teagasc.ie



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