

# Pig Tech Note

Issue 6

Spring 2014

Welcome to our Spring 2014 Pig Tech Note. Thanks for comments re previous editions, and if you have any areas you would like to cover in future editions please let us know.

Again, unfortunately we find ourselves in the midst of a turbulent period, with returns having come under pressure around the Christmas/New Year period, and feed remaining stubbornly high relative to pig price. Through into 2014, markets expect pig prices to rise, (US summer future markets are currently at 15% higher than January prices).

Feed remains unclear, as despite world record harvests in each of wheat, maize and soyabeans prices remain high, but currently are easing coming into the summer. It appears at the moment that we will have a large South American soya harvest, and some switching in the US from corn to soya plantings. Hopefully weather will facilitate good harvests again this year, and replenish global stocks.

In this edition, we discuss a breakthrough product for finishers, DeviGain PG. DeviGain is an exciting product designed to significantly replace large quantities of imported protein from finisher diets. Independent trial and commercial results to date indicate increase in finisher performance when using DeviGain PG.

## **Devenish Nutrition expands presence in GB by appointing Nigel J Smith as Technical Sales Adviser for GB.**

For the last four years Nigel has worked in the genetic business as a Technical Advisor. Before this, Nigel spent many years at Management level in the production side of the pig industry.

He is now looking forward to expanding and promoting Devenish Nutrition throughout GB.

Nigel is based in GB and can be contacted on 07776990756.

Devenish Nutrition have also recently expanded their production base in Great Britain and are now producing premix from a Devenish Nutrition plant in Widnes.

This will result in more opportunities for all pig producers in GB to have the benefit of more technical/nutritional support from Devenish Nutrition.

We also discuss maximising lifetime performance through targeted early nutrition. We detail a significant commercial case study, where targeting nutrition effectively post weaning resulted in a 4.5 kg increase in weight at slaughter.

Michael Maguire also provides an insight into some of the development work he has been involved in Uganda over the last couple of years. In effect Michael and Devenish are contributing significantly to a self-help project designed to encourage and promote pig and poultry production in the East African region.

Finally, I would like to welcome Nigel Smith to the Pig Team. Nigel has vast production experience, and shall prove a real asset to producers and to Devenish.

I hope you find this issue of the Pig Tech Note of interest, and we all look forward to a return to real profitability in the pig industry.

**Aidan O'Toole**



Congratulations to George and John Tate (pictured below) for winning News Letter Farming Life Pig Farmer of the Year for second year in a row.

Congratulations also go to Robert Henderson who was highly commended in the News Letter Farming Life Pig Farmer of the Year.



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# Increase kgs to increase £££s

The latest European Union pig meat forecasts have been released for 2013 and 2014. Notable is the overall 2.5% reduction in the number of sows across the EU, which follows a 3.5% decline last autumn.

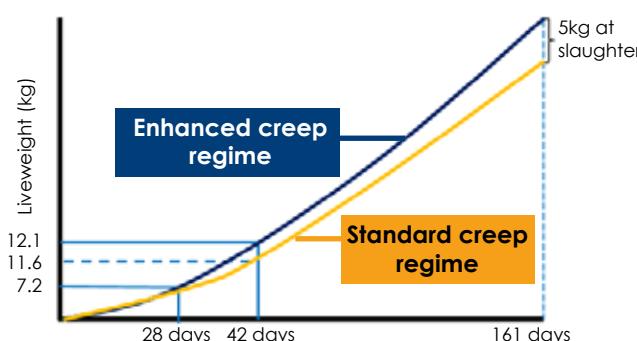
The census in May-June shows a further decline in overall pig stock of 0.9%. This follows a 1.7% fall since the previous count last winter. Pig meat production in 2012 fell by 1.8% compared to the previous year to 22.135mt, while it is estimated output will fall again for 2013 by 0.7% to 21.973mt.

Pig meat exports are forecast to be stable or a slight reduction in export volumes. For the period January to August 2013, exports were 0.6% below the same time-frame of the previous year. As for imports? Well the latest figures for the period January to August 2013 reveal a continuation in declining volumes - down 7.2% from the previous year.

However, and despite these figures, over the last few months, pig price volatility has made an unexpected and unwelcome return. Maximising output per pig and per sow is the most effective means of reducing production costs per kg. Modern pigs have significant growth potential advantages when compared with pigs of a decade ago. We need to maximise biological potential by feeding pigs in such a way as we enable their potential.

According to the Gompertz description of growth, early differences in weight get magnified throughout the pig's lifetime. Therefore, the key to increasing slaughter weights is to maximise weaning weight and first stage performance. By doing so we set the pig off on a high trajectory of growth, see Figure 1, below. This in turn leads to more kilograms of meat produced during the same feeding period. It's simple, the best way to help pigs meet their potential is to maximise intake and provision of high quality creep feed!

Figure 1. The lifetime growth performance of the pig.



Creep feeding is a necessity for three reasons:

1. To provide nutrients for maximal piglet growth during lactation.
2. To promote development of gut enzymes pre weaning.
3. To condition and maintain gut health integrity post weaning.

This crucial period both pre and post weaning cannot be overlooked if producers wish to drive lifetime pig performance.

## Case Study:

In collaboration with a large multiple site producer in Ireland, we have undertaken a scheme of work to improve total herd performance including lifetime performance trials.

## What we did

In one of our primary studies looking at 800 pigs, we performed a lifetime performance trial with the aim of driving carcass weight. The only change implemented was to amend the nursery feeding programme. From the current allocation of 2kgs starter and 2kgs post starter per pig we allocated pigs with 3kg starter and 7kg post starter. These pigs were then followed through the growing and finishing stages, housed side by side in the same accommodation with feed continually recorded and pigs weighed every four weeks.

## What we learnt

By allocating the appropriate creep diet and increasing feeding level from a total of 4kg/pig to a total of 10kg/pig, the results speak for themselves, see Table 1. From weaning to day 117, daily liveweight gain increased by 39g/d. Liveweight increased by 4.48kgs and FCE improved by 0.18.

	Improvement over control from weaning – 117 days	% improvement over control
DLWG (g/d)	+ 39	5.6
Liveweight (kg)	+ 4.48	5.1
FCE (kg/kg)	- 0.18	8.2
Additional feed cost/pig (£)	+ 0.34	0.61
Additional carcass value (£)	+5.04	
Marginal benefit /pig (£)	+ 4.70	

This performance trial is one of many that Devenish Nutrition have undertaken that clearly proves the importance of creep feeding on lifetime pig growth, and your bottom line!

How does providing that extra creep look for you?

Number of pigs you produce per year: **X** Marginal benefit/pig of £4.70 = Benefit to YOUR bottom line!

Article by Mark Williams

## A New Approach That Transforms Finishers

Pigs must be supplied with adequate levels of protein to ensure growth and lean deposition. However it is not "protein" itself but the amount and proportion of amino acids in protein that is important. Getting the amino acid level wrong or supply amino acids in a form that pigs cannot use effectively has a detrimental effect on animal performance. Work at AFBI Hillsborough showed a drop of 2.5% in growth rate and a deterioration of 3.5% in FCR when utilisable amino acids were reduced in finishing diets.

Hence the only option has been to keep crude protein levels relatively high in finisher diets. Protein utilisation in pigs is quite inefficient at only 40% with the other non-utilised protein being excreted as nitrogen. Therefore targeted protein nutrition delivers more efficient and sustainable animal production. Work carried out by Lenis<sup>1</sup> suggests that for every 1% drop in CP in the diet, nitrogen excretion is reduced by 8.5%.

### What is DeviGainPG?

Devenish Nutrition have created a unique concentrated protein which supplies amino acids in a targeted form which the pig can utilise more effectively. DeviGainPG has been developed using our exclusive technology behind the DevAmine Range.

By adding DeviGainPG to the diet, the protein in the diet is optimised therefore overall CP level can be reduced. This spares energy in the diet and hence promotes growth. In the series of trials outlined, CP has been dropped by 3 percentage points with the inclusion of 10kg of DeviGainPG.

### What does 10kg DeviGainPG and a 3% drop in CP mean?

- Up to 5% improvement in growth rate<sup>2</sup>
- Up to 5% improvement in FCR<sup>3</sup>
- 80kg less soya per tonne of feed
- 17kg less soya per finishing pig
- Reduction of 100 tonnes of soya on a 250 sow unit
- 25% reduction in N excretion (in ammonia, urine and faeces)
- Up to 16% reduction in Green House Gas emissions<sup>4</sup>

### The Evidence

A series of trials was carried out at UK research facilities and on commercial units across Ireland. The results of the eight trials are presented in Figures 1 and 2.

Trials covered a range of start weights from 30-60kg and on farm growth rates from 730g/d to 1050g/d. Hence results are representative of most finishing units.

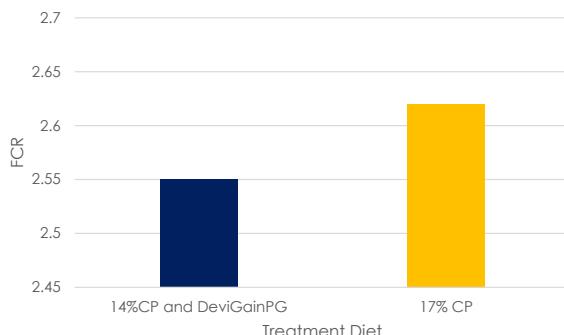


Figure 1. FCR of pigs on Control and DeviGainPG diet

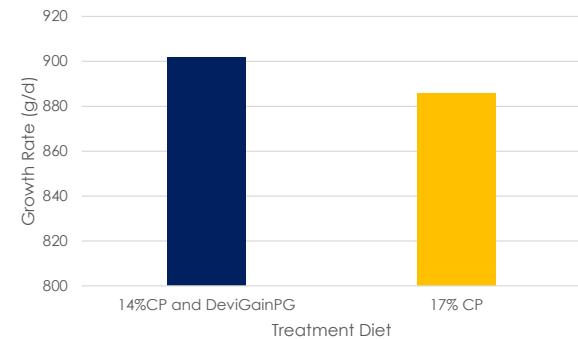


Figure 2. Growth rate of pigs on Control and DeviGainPG diets

### The Economics

Taking an average across all of the trials completed, the financial impact is shown below.

	Effect	Potential margin*
FCR impact	- 5kgs feed/pig	£1.25
ADG impact	+ 1.26kg liveweight/pig	£1.49
Feed cost impact	- £6/ton	£1.20
<b>Potential net margin change per pig</b>		<b>£3.94</b>

\* January 2014 prices



<sup>1</sup>Lenis, N.P. and Jongbloed, A.W. (1999). New technologies in low pollution swine diets: Diet manipulation and use of synthetic amino acids, phytase and phase feeding for reduction of nitrogen and phosphorus excretion and ammonia emission. Asian-Australasian Journal of Animal Science, 12: 305-327.

<sup>2&3</sup>Data on file

<sup>4</sup>Bell, J. Feed ration carbon emissions - provisional estimates. SAC Consulting (2013). Accredited by AgRE Calc® certified to BSI PAS 2050.

# Helping to drive pig production in Uganda

Devenish Nutrition are pleased to inform our colleagues and customers about an exciting and innovative new model pig farm and home mill mix project in Western Uganda.

Over 6 visits during the past 1 1/2 years Michael Maguire has been evaluating the potential for pig production in the region and met with many interested progressive farmers and groups.

In cooperation with Traidlinks, a business led, not for profit organisation, promoting prosperity in African organisations and with support from Africa Agri-Food Development, Devenish have committed to establishing this facility to assist in developing a pig industry in Uganda.

Uganda has a growing population of 35 million people and agriculture is the only real source of employment with 78% of the population engaged in it. It is a very fertile country with regular rainy seasons and the potential to feed all of East Africa. Winston Churchill famously referred to it as the "pearl of Africa" because of its soil type and climate and the surprising aspect is that there is a very small amount of commercial farming ongoing at present. The basis of development in East Africa is Agriculture and Devenish Nutrition will contribute to this through this initiative.



A typical Ugandan Pig House

Current pig production is estimated at 3.3 million pigs slaughtered per year (similar to R.O.I.) but these pigs are sourced from 1.3 million households with an estimated kill weight of 45 kgs D.W. The average age of these pigs at slaughter is 10 months so lack of nutrition is a key issue.



Ugandan pigs at 10 weeks

Most of the current production is from small livelihood farmers and currently the largest progressive producer in Uganda has 60 sows. We have identified 20 small scale development farmers whom we plan to assist in making the transition to full time progressive pig producers.

Uganda currently imports pork from Kenya and South Africa and average consumption is 3 kgs /head/yr. With an emerging middle class demand is expected to grow rapidly. We have established the route to market for this extra production in consultation with a Ugandan pork processor who has committed to increasing his kill from 200 pigs per week to 500 pigs p/w in the short term. We will aim to improve the quality and increase the carcass weights to 70 kgs DW.



Live pig transport in Uganda!!!

Devenish Nutrition will establish the basic mill and a 15 sow model pig farm in early 2014 in Hoima.

This will be used as a practical training centre in conjunction with a nearby enterprise centre run by Traidlinks, which will provide the mentoring for the groups of progressive pig farmers whom we will be working with. The feed mill will be for the supply of consistent quality animal feeds for the model farm, plus the progressive producers who will source their supplies from the mill on a commercial basis and this feed mill will be run as a stand alone business entity. Devenish have committed to supporting this initiative for 4 years after which we plan to pass control to the farmers group.

Aside from the financial input from Devenish to this project we also believe the knowledge transfer aspect is something we will continue to provide over a longer term period. The 2nd phase of the project in 2015 will be to introduce improved genetics through breeding stock and A.I. and we believe there will be more opportunities for both Irish and GB based companies and individuals to become involved at that stage.

Looking to the longer term Devenish Nutrition will seek to establish a base in the East African region to service the markets and opportunities that will emerge through these initiatives as part of our international growth strategy.

Article by Michael Maguire