Feeding to optimise genetic potential

With ever increasing raw material, manufacturing and transport costs it has never been more important to ensure that feed is used with optimum efficiency.

When considering feed efficiency, regard should be paid to genetic potential of the stock as well as the quality of the ration itself.

It is pointless using a high specification ration with high lysine and energy levels if it is not going to be fully utilised by the growing pig and simply excreted.

It is vitally important, therefore, to understand the genetic potential of the animals we are growing. This information can only be obtained though the breeding stock supplier who should easily be able to provide data on the growth potential of the slaughter generation.

Lean tissue growth rate information should be gathered by the breeding company for both their dam line and the sire line breeds. As a result of this growth efficiency can be accurately estimated thus allowing a decision on how high a specification ration is needed.

Individual performance figures in terms of feed conversion can also be obtained from the genetic supplier.

This is very important information as again it will allow the producer to be even more accurate with the slaughter generation's capabilities in terms of efficient growth performance.

Health and housing are also significant considerations in this topic. Optimising health and providing the most conducive environment to promote growth are of vital importance and are an integral part of the matrix to ensure optimum performance.

There is another dimension to efficiency of feed use which is coming more prevalent due to environmental pressures in the EU.

As has been mentioned, protein not utilised by the pig is excreted. Putting to one side the energy wasted by the animal in having to metabolise this protein, the fact that increased levels of nitrogen are being excreted also impacts upon the overall efficiency of an enterprise as this waste has to be applied to the land at specific levels, especially in nitrate vulnerable zones.

Whilst this is already an issue within Europe it must be accepted that it is only a matter of time before this becomes an issue in other major pig production areas of the globe.

In summary, an acute understanding of feeding herd capabilities in terms of feed efficiency is an integral part of the financial performance of the business. Poor feed efficiency impacts on cost of production at different levels from the wasting of increasingly expensive feed to the simple fact that the by-product, slurry, is becoming more and more difficult and expensive to dispose of.

Monitoring the feeding herd has never been more important. Recording programs that can accurately check all inputs and outputs of the feeding herd are invaluable to the modern day pig producer.

Producing pigs without this facility is tantamount to the producer flying blind.

When one considers feed to be 50% of the total input costs of pig production a producer who does not have a feeding herd monitoring system has to pose the question, 'Can I afford not to be able to monitor my herd!' ■

'Sexy' technologies?

Back in the mid 1990s, breeding companies expected sexed semen would be commercially available before the end of the century.

However, a decade on from then, and the pig industry still awaits a commercial solution for sexing semen. There is now renewed expectation from some quarters that it may be with us before the end of the present decade.

Speaking as a breeding company, it would increase efficiency from existing multiplication farms, but what of the commercial pig producer?

In the UK despite raising slaughter weights up to 110-115kg in some instances, we continue, due to welfare codes, to raise entire male pigs. This has brought the issue of 'boar taint' to the fore, but UK processors are not talking of boar taint being an issue.

So a simple question – in which direction would you want to bias the sex ratio?

Currently, the sexing technology is being talked of as a way to produce more gilts at commercial level. Here in the UK, that would add further cost onto the producer and for what benefit?

The producer would pay a 'royalty' for the cost of sexing technology; the semen would be more expensive due to reduced doses per collection as a result of sexing.

The producer would hopefully get high bias towards gilts for which he pays more to rear in terms of poorer FCR and growth than entire males.

All for a problem that the UK processors say is not really an issue.

In the rest of the world, where castration is almost universally practised, the situation may be more straightforward as production efficiency of castrates compared to entires is lower.

But for how much longer will this be the status quo? Europe wide legislation banning castration is likely to arrive in the not too distant future. If this were to happen, the economic/welfare reason for sexed 'gilt' semen would be removed.

However, the cultural lack of acceptance of entire boar meat might prove sufficient to demand 'gilt' semen be used commercially.

A second technology currently under investigation around the world might complicate the picture further.

Marker or gene assisted selection in breeding companies' nucleus herds against genes which lead to boar taint promises to reduce the need for castration.

However, a recent report on genes which have been demonstrated to be linked to the level of skatole (a boar taint compound) in certain pig populations have been shown not to have any influence on skatole levels in pigs from commercial populations.

This indicates that such an approach is unlikely to eliminate the problem of taint altogether; it may reduce the problem in certain populations. This is unlikely to be enough for those countries that currently encourage castration as any taint is unacceptable.

This could then lead to a divergent use of the technologies in different countries – reduced taint 'boar' semen in, for example, the UK and 'gilt' semen being used in the larger pig producing areas of Europe.

If research of such technologies do indeed bear fruit, the question of which sex of pig to rear will still ultimately come down to balancing the willingness to risk boar taint affected meat with the economic factors of pig production. ■

Optimising feed utilisation

Feed has always been by far the largest cost in pig production. Unfortunately, global markets dictate the cost of feed and feed prices look set to continue to rise.

Demand for grain is increasing in emerging markets, such as China and the Russian Federation. The demand for food, in particular pig meat, is also growing as consumers

become increasingly wealthy and discerning. But it is the spiralling cost of energy that is the key factor in driving up feed costs.

The use of grain for energy production is now a stark reality and looks set to have implications on raw material prices. Higher energy prices are also impacting on the costs of feed manufacturing and transportation. All this, we are told, will add about six pence per kilo of pig meat produced. Based on a 500-sow herd selling 80kg deadweight finished pigs this looks set to increase a producer's costs by over £50,000.00 per annum.

However, it is not all bad news! Projections indicate that demand for pig meat is going to outstrip supply which put upward pressure on the price. In addition, there appears to be a genuine will for the retailer to source more local product as customers are coming more concerned as to where their meat comes from and how the animals are produced. The real issue of reducing 'food miles' is also having an effect on many markets.

One of the ways of mitigating higher feed costs is, of course, better utilisation of the feed used in the production process. A good route to achieving this is through the use of genetically advanced breeding stock, particularly animals for which individual feed intake has been recorded. Through the recording of feed intake by the use of sophisticated feeding equipment, the feed conversion ratio for an individual animal can be measured. This, in turn, allows very accurate genetic selection, so breeding stock can be 'advanced' to utilise less feed to produce a given amount of lean meat.

If we use our example of the 500 sow, 80kg deadweight producer, a 0.1 improvement in feed conversion results in an improved return of approximately £17,000.00. While this still leaves a shortfall of £33,000, it demonstrates why producers should be using the most advanced breeding stock possible. How can they afford not to?

It is more than apparent that we need, as an industry, to be increasingly aware of how good genetics can reduce production costs. However, this can only be achieved when a pig production business has a recording system that enables accurate monitoring of the feeding herd allowing bench-

marking to take place. Over 80% of feed consumption on a farm is acc-ounted for by pigs from 7kg to the finished weight. Pig producers owe it to themselves to monitor their assets as accurately as possible. ■