Management

by Stuart Lumb

Basic nutrition

To many pig producers, the mere mention of the topic nutrition is quite sufficient to put them to sleep.

Maybe emptying a suitcase full of Euros/dollar bills down the slats might make them wake up to the fact that incorrect nutrition can cost a pig business vast sums of money.

Ignore it at your peril

Nutrition is sadly not very sexy but ignore it at your peril – given that around 70% of the costs of production are related to feed.

Naturally, feed compounders and premix manufacturers employ advisers who give nutritional advice, but it is still important that the producer has at least a basic knowledge of nutrition in order to converse on an equal footing with feed representatives.

This is even more important if the farm is mixing its own feeds and vital if pigs are being fed by/co- products, which is a very specialist type of operation.

There are six classes of nutrients – carbohydrates, proteins, fats/oils, vitamins, minerals and last, but certainly not least, water.

Carbohydrates can be complex or simple and provide energy for the pig.

Cereals such as maize (corn), wheat, barley and rice are major carbohydrate containing feed ingredients. Cooking increases the feeding value of cereals, but generally this process is only considered to be cost effective where the end product is to be fed to young pigs. Protein is needed, in particular, for muscle growth.

There are animal proteins and plant proteins, with soya being the major plant protein.

Fishmeal and meat and bone meal are sources of animal protein, although for a variety of reasons the use of animal protein is declining in pig feeds.

Fishmeal supposedly contains 'unidentified growth factors' and many old hands voice the opinion that a small amount of fishmeal is invaluable in breeding rations. The actual protein content of a feed is a poor indicator of its feeding value. Proteins are all made up of amino acids and the amino acid balance is by far more important than the crude protein content.

The amino acids are split into the 10 essential ones – arginine, histidine, isoleucine, leucine, lysine, methionine/cystine, phenylalanine/tyrosine, threonine, tryptophan and valine – which must be supplied in the diet and the 12 non-essential ones, which can be synthesised by the pig itself.

In some situations some pig diets may be supplemented with synthetic amino acids. Every reader will know that excessively fat pigs are not needed for today's market – a far cry from some centuries ago, when pigs were actually reared as a source of fat to fuel lamps and lights.

Having said that the body's essential processes do need fat and so it must be part of the pig's diet.

Importance of vitamins

Vitamins, whilst only needed in small amounts are needed for normal body functions.

They are divided up into fat soluble – A,D,E and K – and water soluble – the B vitamins. Vitamins are included in the diet as a separate supplement.

Minerals are classed as macro, for example calcium, phosphorus, magnesium etc, and trace, for example iron, copper and zinc and are also included as a dietary supplement (usually together with the vitamins). Trace minerals, as the term implies, are only needed in very small quantities.

Nevertheless, they play a vital role in normal body function and are measured in terms of parts per million (ppm) or milligrammes per kilogramme (mg/kg). Vitamins and minerals are often needed together. For normal bone growth calcium, phosphorus and magnesium are required along with vitamin D.

Anaemia is commonly thought just to be due to iron deficiency. However, it may be due, amongst other things, to a copper deficiency or a lack of vitamin B12.

The forgotten nutrient

Water, to use Dr John Barber's famous phrase, is the 'forgotten nutrient'. This should not be the case these days. Certainly it is the cheapest nutrient and the most important. There was a trend a few years back to limit water intake in order to reduce the amount of slurry produced.

Good nutrition is vital for pig health (Trouw Nutrition).

Certain bite type drinkers were specifically designed to deliver water at a miserly rate, in order to minimise wastage. However, the effect on pig performance was probably far more damaging.

It is vital that sufficient drinkers/troughs are provided so that pigs do not have to 'work' for water as after a while they just stop bothering.

This is most apparent with pigs that have just been weaned. With regard to the lactating sow, providing an extra water line in the farrowing house to provide supplemental water has dramatic effects on milk output and hence weaning weights.

Remember also that pig feeds contain significant amounts of salt and if pigs get deprived of water then they can soon go down with salt poisoning, which can result in death.

So, how does a producer actually know what the feed contains?

Many producers actually specify the ingredients in the feed that they are buying and have a fixed formulation, as it is felt that the pigs do better on the same fixed components.

Pigs and humans have the same digestive system – would humans like to be fed the same diets week after week? It is an interesting thought. Least cost ration formulation is very common in the feed industry and as long as ingredient changes are gradual then performance should not suffer. As far as the UK is concerned the analysis of the feed has to be declared on the label.

The declaration includes protein, oil, fibre and ash percentage.

If a producer is concerned about his feed then it is possible to have the declaration checked out by the local trading standards office, to ensure that what is stated on the label is 'in the bag'.

Incidentally, fibre is not a nutrient but it is a measure of food quality – pigs do not perform well on high fibre diets – and can be easily analysed in the laboratory.

Likewise, ash indicates the mineral content of a feedstuff.

Essential knowledge

Certainly it is imperative that pig producers have some basic nutritional knowledge – given that feed makes up such a major proportion of the costs of production.

It might be boring, but an hour spent reading a good text book could be much more cost effective than spending an hour in the farrowing house – although come to think of it, combine the two and you have the best of both worlds! ■