

# Pig nutrition: get the mix right

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## Introduction

There are animal health, welfare, reproduction, and profit margin benefits in keeping pigs properly fed. But there is a lot more to consider than just feed ingredients in a pig ration. A pig's nutritional needs change over time as it grows, matures, breeds and lactates; and with the season and environment. The farm manager needs to also consider feed and water delivery to the pigs; feed ingredient and ration quality assurance; and securing the services of a nutrition consultant to assist in the fine tuning of diets to maximise the benefits to the pig and to farm income.

## Match Feed to Need

Whether you are a conventional indoor pork producer or an outdoor pork producer the primary aim of any nutrition program is to meet the pig's nutritional needs.

Pig diets are formulated on the basis of the lysine: DE (digestible energy) ratio. Pigs require specific amino acids in their diet and lysine is the most important amino acid in all stages of a pig's life. All feeds have some protein but not all proteins are the same quality or have the same amino acid components. For this reason pigs benefit from a diet with a mix of ingredients.

Cereal grains such as wheat, barley, sorghum, triticale and corn supply most of the energy and some protein but all are deficient in lysine. Protein supplements can be plant origin such as soybean meal or canola meal; or they can be of animal origin such as meat meal, blood meal, milk powder or powdered whey. There are inclusion limits for several of the protein supplements because they can affect palatability of the ration or are unsuitable in large amounts for young pigs, so seek help with diet formulation.

Table 1 gives a guide to the specifications for diets for pigs from weaner through to lactating sow. The energy in feed ingredients and formulated rations is expressed as megajoules (MJ) of digestible energy (DE) per kilogram (kg) – MJ DE/kg. A high quality ration might have 15 MJ DE/kg. The ratio of lysine to energy is expressed as the grams of lysine to each megajoule of digestible energy – Lysine: MJ DE.

**Table 1: Guidelines for feed requirements for pigs of all ages**

Group	Age range (weeks)	Energy MJ DE/kg	Lysine (g): MJ DE	Daily Feed intake (kg)
Weaner	4-10	14.5-15.0	0.80	0.3-1.5
Grower	10-17	14.0	0.67	1.7-1.8
Finisher	17-24	13.2	0.50	2.4
Dry sow or boar		13.0	0.40	2.5-3.0
Lactating sow		14.0	0.55	6.0+
Lactating gilt	1 <sup>st</sup> litter	14.2	0.72	5.0+

(Source: Adapted from 'Producers Guide to Pig Nutrition', Pig Research and Development Corporation, 1998.)

Pigs also have specific requirements for vitamins and minerals and it is unwise to assume they will get all they need from their feed. Purchase vitamin mineral premix if you are mixing your own feed. Complete rations purchased from a feed mill already have these added.

## Benefits of using a nutrition consultant

The role of the nutrition consultant is to provide advice and formulate pig rations according to your ingredients list. Some companies offer this service when you buy their products; but often it is on a fee for service basis. If you are a serious pork producer their services are a worthwhile investment.

Growth rates, carcass data and health issues such as lameness in sows, sow reproductive performance and sow longevity are all diet related. This information should be shared with your consultant and this will allow them to adjust your diets accordingly.

Diets should be reviewed at least seasonally. Pigs tend to eat more in winter and can become over fat; and they tend to eat less in summer and can benefit from a more nutrient dense diet so they get all their requirements. Nutrient density is another way of describing the lysine: DE ratio. A higher ratio is a more nutrient dense diet.

## Protect your investment – Quality assurance in the feed shed

- Buy feed from FeedSafe® accredited mills. Go to [www.sfmca.com.au](http://www.sfmca.com.au) for more information and accredited feed mills nearest to your farm.
- Test don't Guess – use AusScan laboratories for grain sample analysis for pigs.
- Keep feed mix and feed ingredient samples for 6 months. Store them vermin free and label well.
- Ask for Vendor Declarations for all ingredients and feed mixes.
- Keep delivery dockets, batch numbers and any other pertinent information. Feed samples and dockets can be a business saver if there is a residue incident or unexplained animal health issues.
- Visually assess all feed deliveries. Look for moisture, heat, mould, odour, excessive dust or any unusual ingredients. Do not feed 'OFF' feed to pigs.

## Improve feed efficiency, reduce waste and improve income

- Particle size is the single biggest factor affecting feed use efficiency aside from pig genetics. Optimum particle size is 0.7mm (700microns).
- Consider use of enzymes such as phytase as these allow the pig to more easily digest phosphorus that is bound in an indigestible form in cereal grains. This can also help reduce faecal phosphorus pollution. A nutrition consultant can help you identify those which may be suitable for your situation.
- Match feed to need. When you feed according to the pig's requirements you have better pig health, growth rates, reproductive rates, better sow longevity and a better herd feed conversion to pork.
- Ensure adequate feeder access. Pigs won't grow or stay healthy if they can't eat. Separate age groups to prevent bullying by older and larger pigs.
- Reduce spilt or wasted feed. Check feeders daily. It has been calculated that if you can see spilt feed near the feeder the waste is at least 10% or more.
- Avoid out of feed events or fluctuating feed availability. This reduces growth rates; pigs take longer to reach market weights and can result in fatter carcasses.

## Water

- Aim for cool water with a temperature around 18-20°C. High water temperatures (>30°C) may cause water to be undrinkable when it is most needed.
- Test don't Guess. Test water quality from bores and dams at least annually.
- Water pressure is important if you are using nipple drinkers for your pigs. Recommended water pressure is 0.5 litres/ minute for piglets and weaners, 1.0 litres/ minute for growers, finishers and dry sows and 2.0 litres/ minute for lactating sows.
- Water should be available at all times especially for lactating sows.

- Water should be accessible to all sizes of pigs at all times. Consider the height of drinkers and troughs relative to the size of the pigs drinking and have enough trough space or drinkers for all the pigs.

### More information

- [Pig industry terms and definitions.](#)
- [AgGuide Pig Production: the basics](#)

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