

# A diet fit for a pig: seven basic rules

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## Introduction

When a pig is fed a proper diet there are benefits to the pig in terms of its health and well being; and for the business manager there are benefits in feed use efficiency, good pig growth rates and better profitability. The basic principles of pig nutrition have been simplified to 7 basic rules.

### Rule 1: Outdoor pigs need more than just pasture to survive.

- While it is true that pigs love rooting in and eating pasture, they cannot survive on pasture alone. They need a balanced ration usually based on cereal grain. Pigs are monogastric (single stomach) animals and are inefficient digesters of fibre (only 50% efficiency).

Figure 1: Self feeder positioned in the paddock for sows and their piglets on a free range pig farm



- Diets based on pasture are high in fibre. Pasture quality can change quickly. Pigs unused to pasture diets can take 2 months to adjust. Most of this adjustment is due to changes in the size of the large intestine and changes to microflora in the gut. The more fibre in the diet the lower the digestibility.
- Young pigs do not have the gut capacity to eat enough pasture to get their nutrient requirements for growth, health and well being. Pasture should be 10% or less of their daily intake for best results. Mature dry sows may cope with 50% of their diet comprising of good quality pasture but they need a balanced ration as well. Lactating sows should be fed to appetite with a grain based ration.
- Pigs on a pasture based diet have a reduced dressing % due to the increased gut volume for fibre digestion.

## **Rule 2: Cereal grains must be processed – cracked, rolled or soaked – for efficient digestion by the pig.**

Pigs will eat whole grain but this will pass straight through and show in the manure. Grain that is processed is more easily digested by the pig and there is less feed wasted. The recommended particle size for pigs is 0.7mm or 700 microns.

Use of hammer mills or roller mills breaks the grain to smaller particle size and increases the surface area available to the digestive enzymes in the gut. Soaking softens the grain and it is broken to smaller particle size when the pig chews the grain. Soaking is inefficient for large numbers of pigs, and there is the added risk of mycotoxin development. (Mycotoxins are toxins produced by moulds.)

**Figure 2: Whole grain goes straight through and appears as whole grains in the pig's manure. Grain must be processed – cracked or rolled for digestion by the pig.**



Pelleted feed has a fine particle size suitable for easy digestion by the pig. However pellet size can vary so be sure the pellets are not too large for young pigs to eat.

If you can see whole grains or parts of grains in the pig manure then you are wasting feed.

### **Rule 3: One diet does not suit all pigs – Match Feed to Need.**

Pig feeds and diets are assessed on the amount of lysine and DE (digestible energy) that they provide for the pig. Piglets, weaners and growing pigs have higher lysine and energy requirements compared to mature pigs. First lactation gilts, older lactating sows and dry sows all have different lysine and energy requirements. Pigs housed outdoors may have additional energy requirements (up to 15% extra) depending on weather conditions and exercise.

Larger scale commercial piggeries will feed specific diets to their weaners, growers, finishers, gilts, dry sows and lactating sows – usually 6 different diets. Small scale piggeries with only a few sows are usually unable to be this specific. However there is benefit in targeting the pig groups that benefit most from matching feed to need. These groups are the weaners and growers and the lactating sows and gilts.

A small scale producer needs to consider the age at which the pigs are sold. If all pigs are sold as weaners then a lactating sow diet will suffice for all pigs, with a top dressing of milk powder as the creep feed for suckling pigs. If pigs are grown out to the porker/grower weight then introduction of a grower diet for the weaners and growers would benefit those pigs.

If you are using pelleted feed then you need to make sure the pellet size is suitable for all pigs in the group. Meal or mash is preferable but you need feeders or troughs to reduce waste. If feeding wet feeds then cleanliness is important as stale moist feed is a good substrate for moulds and mycotoxins which can make pigs sick or worse cause their death.

### **Rule 4: Feed a balanced ration – consult a pig nutritionist for diet formulations.**

A balanced ration and diet formulation is part of the process of matching feed to need. Different feed ingredients contain different amounts of amino acids and energy and have differing digestibility so they may not be suitable for all age groups of pig. Some feed ingredients may have restrictions on amounts that can be included in a ration due to their effects on palatability, their digestibility, fibre content or cost. A pig nutritionist can provide you with a diet formulation that supplies a balanced ration for your pigs.

There are several companies that supply vitamin and mineral premixes, and most provide a feed formulation service. It is recommended that you utilise this service. If you feed your pigs a balanced ration you enhance their health and well being. Pigs that receive an inadequate diet are more susceptible to health and reproductive problems.

You can purchase ready mixed pig feed directly from quality feed mills. This is the easiest way to start when feeding pigs. Choose a FeedSafe® accredited mill for your feed purchases.

Consult a nutritionist as well as a vet if you have herd health or reproductive problems – these may be due to dietary deficiencies. Review your diets summer and winter or whenever the ingredients list or conditions change.

### **Rule 5: Water should be available at all times and readily accessible for all age groups.**

- Water intake is correlated with feed intake and should be available at all times.
- Piglets start drinking water before they are weaned so water should be accessible to them as well as the sow. Lactating sows seek water at night as well as during the day even in cold weather.
- Water still needs to be available even if you are liquid feeding especially in hot weather as the liquid feed is not always available and pigs can still be thirsty.
- Aim for a cool water supply 18-20°C. Supply lines should be buried or insulated particularly if they are black poly pipe outside in the full sun; otherwise the water is hot and undrinkable when it is most needed.
- If using nipple drinkers match water pressure to age group – 0.5litres/min for piglets and weaners, 1.0litres/min for growing pigs and dry sows and 2.0litres/min for lactating sows.

**Figure 3: Wet/dry feeders supply feed and water together – one way to make sure your young pigs get enough of both water and feed.**



### **Rule 6: Do not feed prohibited substances (swill) to pigs.**

Swill feeding is illegal in all Australian states and territories. You must not feed meat, meat products or anything that has been in contact with meat (such as table scraps or restaurant waste) to pigs.

The use of Dry Stock Feed Meals based on meat, blood, bone, feathers or a combination of such products, is only allowed if the meal has been produced according to Australian Standard AS 5008-2007 Hygienic Rendering of Animal Products.

It is possible to keep pigs on a vegetarian diet but you are advised to consult with a pig nutritionist to develop a balanced ration.

### **Rule 7: Check for hazardous substances in feed – some weed seeds and some plants are poisonous to pigs.**

Always ask for a vendor declaration with all feed deliveries.

Keep feed samples of all feed deliveries for 6 months. Label well and store them in a vermin free environment. Keep delivery dockets and batch numbers of all feed ingredients.

Do not feed 'OFF' Feed to pigs – look for moulds, moisture, heat, odour, excessive dust, odd colour or unusual ingredients. Use mycotoxin inhibitors in pig feed to reduce effects of unseen mycotoxins. Mycotoxins are toxins produced by moulds on feed. There are several types. Some can cause vomiting, some can cause reproductive problems such as abortions and some can cause death in pigs.

Be aware of the plants growing on your farm – some are toxic to pigs. Some will cause death in a short period of time after ingestion (for example the seeds of the White Cedar tree) while for others the effects can be more gradual (Patterson's Curse, Common Heliotrope, Bracken Fern).

#### **More information**

["AgGuide Pig Production: the basics"](#)

For more information on weeds visit the [weeds profiles](#) page.

For updates go to [www.dpi.nsw.gov.au/factsheets](http://www.dpi.nsw.gov.au/factsheets)

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