



Pigs 101

Feeding Your Pig

Feed is a huge factor in successful pig production, representing 60-75% of the cost of raising a pig to market weight. Choosing the appropriate feed for the stage of growth has a direct effect on how long it takes to get a pig to market weight and how much it costs, as well as having an effect on meat quality. Whether purchasing a commercially mixed feed from a feed store or creating a custom mix at home, it is important to meet the nutritional requirements of the pigs. One diet does not suit all.

Pigs are monogastric animals which means that they are simple stomached with a digestive system that is very similar to a human's. Also as with humans, pigs are omnivores (eat food of both plant and animal origin). This differs from animals such as cattle and sheep who are ruminants (having a rumen) and herbivores (eat food from only plant sources). Pigs require energy (fats and carbohydrates) and nutrients such as protein (amino acids), vitamins and minerals. Of great importance is a source of clean, available and accessible water.

Protein

Pigs of all ages and stages require protein for maintenance, growth and reproduction, and it is the nutrient talked about most often when discussing which feed to buy. Amino acids are the structural units of protein, so in reality, pigs require amino acids rather than protein. Ten of these amino acids cannot be produced within the pig's body from other components and, therefore, the pig's requirements for these must be provided in the feed. Lysine is typically the first amino acid to limit growth, and nutritionists tend to pay particular attention to ensuring it is available in sufficient amounts. Soybean meal is a high quality, high percent protein

ingredient commonly used in swine diets, and is rich in the amino acids lysine, threonine and tryptophan.

Energy

Pigs need energy for maintenance, growth and reproduction. The bulk of the pig's energy requirement is met by fats and carbohydrates, with fats being a much denser source of energy than carbohydrates (2.25 times more dense). Common energy sources in swine feeds include corn, wheat and barley.

Vitamins and Minerals

Although present in the diet in relatively small amounts, vitamins and minerals are essential for the proper functioning of all physiological processes. Two minerals, calcium and phosphorus, are commonly mentioned when talking about feed and ingredient composition, but deficiencies, excesses and imbalances in most of the vitamins and minerals can cause health and/or production issues.

Water

Although not a feed nutrient per se, water is one of the most important components of a feeding program for swine. Vital to all body functions, water accounts for as much as 80% of body weight in pigs at birth, declining to about 50% at market. Growing pigs can drink upwards of 10 litres of water per day during hot weather. Clean water should be available and easily accessible at all times, whether provided by a drinker nipple or in tubs or troughs. The quality of this water should be considered as well – pigs should be given water that would be suitable for human consumption.



What should I feed my pigs?

Pigs can be raised on a wide variety of feeds, as long as the finished diet meets the nutritional requirements for their growth stage. The simplest way to raise pigs to market weight and meet the appropriate nutritional requirements is by purchasing commercial feed from a feed store, changing the diet purchased as the pigs grow and their requirements change.

It's easy to over-feed protein but this should be avoided, as protein is normally the most expensive component in the diet. Don't keep pigs on a high protein diet longer than required. Small, young pigs from 16 – 27kg (35 - 60lb) require 18% crude protein for maximum muscle development. Between 27 – 80kg (60 - 175lb) feed a 16% crude protein diet, switching to 14-15% crude protein once the pigs are over 80kg (175lb). These guidelines are more accurate for the requirements of commercial breeds but can be used as a good rule of thumb for any breed.

Avoid feeding mouldy feed to the pigs. The mycotoxins produced by some moulds and fungi (there are many different types) can cause growth problems, vomiting and diarrhea, and even

death. Although breeding animals are not being discussed in this article, it's important to note that mycotoxins can cause significant reproductive issues when feeding sows.

Pigs need a certain amount of fiber in their diet and are able to digest some forage or pasture. While a good pasture can contribute to their nutrient requirements, it's important to understand that the role of pasture in a pig's diet is not the same as the role of pasture in a cow's diet. Where cows and other ruminants are built to turn forage into meat or milk, pigs are not. Pigs will enjoy and appreciate access to pasture but will not be able to survive on pasture alone and need access to a balanced ration that meets their requirements in order to remain healthy and productive.

Using your own feed ingredients

Because raising a pig to market weight represents a significant feed cost, it's tempting to use alternatives to commercial swine diets, either as a whole feeding plan or as a supplement to the complete diet. Different feed ingredients contain variable amounts of amino acids and energy and can have a wide range of digestibility, so some may not be suitable for all age groups of pigs. It's essential to consider the nutrient contribution of these feed ingredients; an available/inexpensive ingredient can often be incorporated in a diet but should never compromise the health and well-being or productivity of the pig. Always aim to meet the nutritive needs of the animal, first and foremost.

With a bit of research, the theoretical feeding value and recommended feeding percentages of most potential feed ingredients can be found. If it is an ingredient that will be regularly included in the pigs' diet, it's strongly recommended that it be analyzed to be sure of the nutrient composition. The Nova Scotia Department of Agriculture has laboratory services that can perform feed analysis (<https://novascotia.ca/agri/programs-and-services/lab-services/analytical-lab/>). It is also important to find out if the ingredients should be processed before feeding. For example, cereal grains need to be cracked, rolled or soaked and soybean must be heated before feeding to be utilized by pigs.

Note: Feeding swine anything containing meat or meat by-products (or food that is suspected to contain meat or meat by-products) is not permitted in Canada because of the risk of transmission of exotic diseases (for example, foot-and-mouth disease, African swine fever, classical swine fever and zoonotic diseases such as Trichinellosis). Those meat-based ingredients which are approved feed ingredients can be found in Schedule IV or V of the Federal Feed Regulations (<http://www.inspection.gc.ca/animals/feeds/approved-ingredients/eng/1322975007194/1322975281243>). More information on recycled food products can be found at <http://www.inspection.gc.ca/animals/feeds/regulatory-guidance/rg-1/chapter-3/eng/1329319549692/1329439126197?chap=19>.

How much will my pigs eat?

How much a pig will eat is largely dependent on their breed and sex, and what they are being fed. Feed intake may be higher than anticipated if the feed is nutritionally inadequate (particularly in energy). The following are a few general guidelines (keep in mind that these feed amounts are based on daily intake – if feeding occurs twice daily, feed half the amount at

each feeding). If you are feeding multiple pigs, be sure that there is enough space for all the pigs to eat in comfort.

- An 18kg (40lb) pig (around 8 weeks of age) will consume about 0.7 - 0.9kg (1.5 – 2lb) of 18% protein pelleted grower feed per day
- By around 35kg (approx. 75lb and 12 weeks of age), the feed consumption will have increased to 1.1 – 1.35kg (2.5-3lb) of 16% protein feed per pig per day
- Once the pigs are 55 – 60kg (125lb and approx. 16 weeks), daily feed consumption will be roughly 1.8 – 2.3kg (4-5lb) of 16% protein feed per pig per day (switching to 15% protein once the pigs are approximately 80kg or 175lb)
- This amount should be gradually increased so that the pigs are getting about 2.7 – 3.2kg (6-7lb) of 14-15% protein feed per day once they are roughly 110 – 115kg (250lb)

Increases in the amount of feed the pigs are getting should be done gradually as the pigs grow (weekly, for example). Assuming they are being fed set amounts a couple of times per day rather than free feeding (i.e. feed always available), keep an eye on whether the pigs are cleaning up their feed within 20-30 minutes. If there is feed left over, decrease the amount they are being given. If they are cleaning everything up and are still hungry, increase the feeding amount.

Remember, pigs that are outside a lot will need more feed than pigs raised indoors in a controlled temperature environment, particularly in colder weather.



Feeding a pig can be as complicated or as simple as you make it, but the key is to make sure the nutritional needs of the animal are being met for the growth stage that it is at, while keeping costs as low as possible. A poorly balanced diet will result in pigs which get sick more easily, grow slowly, convert feed inefficiently and produce a poorer quality carcass (too fat, low muscle mass, etc.). Common sense and research is needed when considering substitute ingredients – an apparently cheaper ingredient can easily become an expensive mistake. Correct feeding makes a difference when producing a great quality pork product!

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