

Introduction

Swine have a relatively simple digestive system, similar to humans. They are unable to utilize vast quantities of hay, silage, or pasture grasses. Therefore, hog rations are made up primarily of farm-grown grains, plus a protein supplement that includes vitamins and minerals.

Young animals use most of the feed they eat for growth and maintenance. Mature animals use feed primarily for maintenance and reproduction. Digested feed which is not needed for growth, maintenance, or reproduction is stored as body fat.



Uses of Swine Feed

1. Growth: Mainly an increase in size of bone, muscle and skin cells.
2. Maintenance: Energy for normal animal activities and repair of worn body tissue.
3. Reproduction (Gestation): Growth and development of unborn pigs, from mating to farrowing.
4. Milk Production (Lactation): Producing milk requires a high-level feeding of quality feed.
5. Fattening: Formation and deposition of fat tissue under the skin, around muscles and in the body cavity.

Swine Feed Nutrients

Over 100 different nutrients or feed substances have been discovered by research scientists which are necessary for desirable pig growth. These nutrients can be classified into five main groups -- energy, protein, minerals, vitamins and water.

Nutrients of Swine Rations

Energy -- from carbohydrates and fats in the feed. Farm grown grains are usually the cheapest source of energy for hogs. Corn and milo (grain sorghum) are popular feed grains. Wheat, oats, and barley may also be used for feeding hogs.

Energy Sources for Swine

Ground Grain	Feed Value	Max Ration Content For Sow and Pigs
Corn	100 %	100 %
Milo	95 %	50-75 %
Wheat	95 %	50-75 %
Oats	80 %	25-50 %
Barley	90 %	25-50 %

* For finishing hogs - maximum is 100%



Nutrients of Swine Rations

Protein -- from soybean meal, fish meal, meat scraps, tankage, or commercial protein concentrates. The amount of protein in a ration and the quality (balance of amino-acids) of protein are extremely important in swine rations.

Feed Protein Levels Required by Swine

Ration	Protein %
Creep Feeding	18-20 %
Growing (50-125 lbs)	15-16 %
Finishing (125-240 lbs)	13-14 %
Young gilts-boars	15-16 %
Older sows-boars	13-14 %

Minerals -- from grain and protein sources but primarily from mineral supplements. Over 15 different minerals are essential for swine growth. Calcium, phosphorus and iodized salt (iodine, sodium, and chlorine) make up the largest mineral requirement. The other important minerals (iron, copper, zinc, and manganese) can be supplied in a trace-mineralized salt combination.

Vitamins -- from direct sunshine, dehydrated alfalfa meal, green pasture, or synthetic sources such as vitamin premixes. Vitamins regulate many body functions and are essential for rapid growth of pigs. Vitamin A affects the eye and normal vision, Vitamin D particularly affects phosphorus-calcium metabolism, and the B-Vitamins are responsible for the nervous system. Vitamins must be included in the ration of confinement-reared animals.