

## Feed basics

DATE SHIPPED	BRANCH	SALES REPRESENTATIVE	ACCOUNTS RECEIVABLE TERMS			
01/31/2019						
LOC	PRODUCT NUMBER	DESCRIPTION	TAX	QTY. SHIPPED	UNIT	UNIT PRICE
023	0103	MILO	X	1341.000	LBS	3.370
023	0102	OATS	X	250.000	LBS	4.750
023	9240200	SOYBEAN MEAL HI-PRO BULK	X	370.000	LB	.185
023	9581000	MONO-CALCIUM PHOS 21%	X	13.000	#	.424
023	9572100	CALCIUM CARBONATE	X	10.000	50 #	.131
023	9649100	FINE ROCK SALT	X	3.000	#	.084
023	1201	KSU TRACE MINERAL	X	2.000	#	.580
023	5021	KSU VITAMIN	X	2.000	#	2.400
023	5061	LYSINE	X	2.000	#	1.900
023	M3855	AVAILA SOW	X	2.000	#	2.540
023	SM17171	KSU SOW	X	2.000	#	1.850
023	9965100	ZINPRO 40	X	2.500	#	1.560
023	134	ROLL	N	1591.000	#	.006
023	135	MIX	N	2000.000	#	.005
023	BAG	BAGGING AND PROCESSING	X	20.000	EACH	1.800
		RUN# 86				
		THANK YOU FOR YOUR BUSINESS!				

Above is an example of a feed recipe from Kansas State. Yours may vary slightly due to your own environment and grain type availability.

We can't possibly give you all the information in this article about swine feed and nutrition that you'll need. There's tons of excellent reading material available that will help you educate yourself and all may vary to certain degrees. Requirements such as climate, soil conditions and pasture availability vary across the country. Your county extension agent and/or your state college agriculture department can be valuable resources for you and they're free.

Variables that will affect a hog's feed and nutrition requirements are: Energy concentration of the diet, the hog breed, the sex, genetic background of the hog, life events for the hog, overall health of the herd, availability and absorption of nutrient content and the use of by-products are only a few. There's a multitude of research that shows that different breeds or their genetic background has different capacities for production-- Meaning different nutritional requirements. We know this by seeing the variances in growth patterns and pork qualities in all breeds even when identically fed and grown out. They all metabolize differently therefore may have different nutritional requirements to produce the type and quality you are looking for.

Energy is needed to survive whether running, grazing, eating or sleeping. By simply being alive. The majority of energy comes from carbohydrates and fats and they are most commonly found in grains such as corn, soybeans, milo, oats and wheat with corn and soybeans being the front runners in nutrition, availability and economically. They are both also more easily digested by swine.

There are important minerals necessary for good health such as zinc, copper, iron, manganese, iodine, selenium, and chromium. These minerals are often added to the grain recipe. Other minerals are calcium, phosphorus, sodium, chlorine, magnesium and potassium and are usually contained in the grains.

Soy is an economical protein source. It's the only plant protein that compares with animal protein in terms of quality. Soy contains Lysine which is an amino acid needed for protein production. (produces muscle mass). Calcium in the diet helps the protein attach within the metabolic system so you see, calcium is not only for strong bones.

Water is necessary for all functions and maximum performance. Even though we provide water we often don't know it's function except thirst. Water helps the body to regulate temperature, transports nutrients and waste, assist the metabolic process and is necessary for lubrication and milk production. Under normal conditions swine will consume 7 to 20 quarts of water daily per 100 lbs. of body weight. Conditions for increased water intake are when lactating, fever, and diarrhea.

Grinding feed is the most common method of feeding for the breeder and nearly all the ingredients will be reduced in size. The reduction in size increases the surface area of the grain which allows for greater interaction with the digestive system and enzymes. This improves feed efficiency. It also improves ease of handling. Too fine grinding is more costly and may also cause feed to bind in bins and feeding equipment. The increase in dust also raises the potential for ulcers in swine. On the other side, if there are whole or cracked kernels in your feed it's not ground fine enough and you are losing 5 to 8 percent feed efficiency. The breeder will do better economically and with feeding equipment by utilizing granules, between cracked and ground fine or too dusty.

Oats have more lysine than milo or corn but the high fiber content limits their use in swine diets. If using oats, the percentage should not be more than 30% of the diet.

Milo is also an excellent source for energy but can be cost prohibitive when other local grains are more readily available at lower costs.

Wheat is also an excellent source of nutrition and can often replace corn or milo and reduce the amount of soy needed in the diet without affecting performance. Unless you're in an area where wheat is readily available it can be cost prohibitive to most breeders.

There will be variances in feed products and availability throughout the country as well as pasture availability and types of grasses that can be grown for maximum benefit. Soil tests can be very helpful and often are free at your local extension office. They will help you determine if your soil needs amending and even what types of grasses will grow best for you and your herd. While most excess is expelled by the body in waste product, it's a myth that all are. Do not go by the old adage: if a little is good, more is better. Excess feed and lack of exercise produces unwanted and unhealthy fat. A build-up of some minerals can inhibit other minerals from working properly in the body. Even your soil type can prevent some minerals from metabolizing properly and will create health problems. Swine also absorb minerals in the soil thru their skin and feet when they lay, root and graze.

There's an increased interest and use of **distillers' grain**. This can be a great supplemental food source if available in your area. It's spent grain used to create other products and combined with a liquid source, usually water. It normally contains a variety of grains, giving a rounded diet and a water source at the same time. The grains are soaked making them softer and easier to digest. Because of the popularity of distillers grain use there have been a few initial tests completed on growth patterns and the finished pork product. Breeders using distillers' grain should be aware that some finished pork products are testing out with a softer fat makeup. Work with your processor to know you're producing the type fat you and your customers find desirable. To make changes, you can omit or limit the distillers' grain for 4 to 6 weeks prior to butchering. Testing also shows distillers grain fed throughout the entire finishing phase reduces the carcass yield by approximately 0.50 %. This is money. Your profit, and should be taken into consideration. However most distillers' grain is at a minimal cost or free. Testing shows using distillers' grain may create longer finishing times to get to the weight you and your customers want. The jury is still out on benefits or undesirable affects so the breeder should monitor their herd and adjust accordingly to their own findings. Recent studies also show that distillers grain should not be fed to farrowing, nursing sows, or weaned piglets under 2 months old due to the possibility of residual alcohol content.

Some of our Red Wattle breeders who use distillers' grains report that they see no change in the fat or muscle quality of the pork, or in the growth rate. Some report the growth rate may actually be increased. This may be due to how Red Wattle metabolizes, how much exercise they get, what types of pasture they are on, and the grain products in the distillers' grain.

**Garbage or Swill** feeding can be an economical and nutritious endeavor if done properly. Food waste should never be mixed with meat products due to the probability of disease contamination that may spread throughout your herd and to other animals. Food waste should also be cooked at a temperature of at least 212 degrees for at least 30 minutes. A few diseases that can be transmitted due to improper handling are: hog cholera, foot and mouth disease, African swine fever, Swine vesicular disease, salmonella, campylobacter, trichinella and toxoplasma.

In comparison to commercial swine rations, food waste has a lower dry matter which may decrease nutrient intake and limit performance. Most hogs fed exclusively on food waste gain about 1 pound per day but must be fed greater quantities than they would with commercial hog feed.

Primary sources of food waste can be restaurants, institutions, grocery stores and schools. Care must be taken that food waste is not mingled with or contaminated by meat products that may be undercooked or rare and harboring disease.

Discount bakeries offer sources of carbohydrates but caution and restraint must be used. A high carb diet makes for a faster growing hog that is fatty and unhealthy. Hogs are just like us. Too much bread, cookies, doughnuts and desserts make us fat. We love it, they love it. Much more nutritious foods are needed. Don't trick yourself into thinking it's healthy because it's made from grains. It's also full of unhealthy sugars, fats, and even artificial flavorings and preservatives that could affect the pork flavor or taste.

Another source would be your own garden with excess or over ripe produce.

A few guidelines to implement if you are using or considering using garbage or swill feeding are:

- Supplement waste with a feed such as ground corn and a commercial vitamin/mineral mix to improve performance.
- Avoid trashy food waste such as might come from a restaurant. Collect where source separation is practiced such as grocery stores, institutions, and food product distribution companies.
- Follow recommended cooking/heating instructions especially if waste contains meat or meat byproducts.
- Provide clean water and drinking stations throughout their living areas.
- Follow-up with your processor and customers to assure you are obtaining quality hogs and pork products.
- Use bakery products in sparingly or in moderation. Best used as occasional treats.

Optimal nutrition is a must for them to perform at their best. There are many things within your control but you must educate yourself to become successful.

