SOON SOON OILMILLS
APPLICATION BULLETIN

Issue No. AB03-08/2004 (Malaysian Edition)

Application of Soon Soon Soybean Hulls In Swine Feeding

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Introduction

Soon Soon Soybean hulls is a co-product in the production of Soon Soon High Efficiency Dehulled Soybean Meal and Dehulled Full Fat Soybean Meal. In swine, it has a metabolizable energy value close to 95% that of wheat bran and 80% that of wheat pollard. Soybean hulls can be strategically used as an alternative to wheat bran and wheat pollard at different stages of the pig. Its relatively low concentration of usable energy makes it best used in finisher and gestating sow diets. Past research has demonstrated that addition of soybean hulls fiber/Non Starch Polysaccharides (NSP) has positive effects on sow reproduction performance and carcass quality of market hog. It also reduces ammonia emissions from production facilities.

Product Specification

Moisture	% max	13.0
Protein	% min	11.0
Oil	% min	3.0
Crude Fiber	%	30.0 - 35.0

Benefits of using Soybean Hull in swine feed

- Because of its relatively low concentration of usable energy, soybean hull serves to decrease the energy and bulk density of a diet. Lower energy intake helps to control excessive bodyweight gains in gestating sows and reduces fat deposition in finisher pigs without having to severely restrict feeding.

- Feeding relatively large quantity of soybean hulls throughout gestation period helps to prepare sows for high voluntary feed intake during the subsequent lactation. A bulky diet during gestation will help to accustom the gut to handle large quantity of feed which desired during lactation.

- High fibers content of soybean hulls increases the rate of passage of digesta in the gastrointestinal tract and thus reduces the incidence of constipation and improves sow comfort.

- Sows receiving a high-fiber diet during gestation have a marked lower incidence of constipation and have approximately 40% faster digesta transit time, thus lowering the risk of the development of Periparturient hypogalactic syndrome (PHS).

- Soybean hulls contains high NSP. High NSP shifts the way nitrogen (N) is excreted from the body. Pigs that consume more NSP excrete less N via urine in the form of urea and more N via the feces in the form of microbial protein. Because N in microbial protein is more stable and less volatile than N in urea, less ammonia is emitted from slurry. Fermentable NSP in soybean hulls also lower ammonia emission by increasing volatile fatty acids production. This lowers the pH of the feces and slurry. Up to 10% reduction in ammonia emission can be expected.

- Sows fed soybean hull diet have slightly larger litter size at weaning. Pre-weaning mortality was also lower when compared to the control group which was fed with rice bran diet. (Kanta Uthai et al., Asian Pork Magazine, April/May, 2004)

Recommended Usage Level in Swine Feeds

		Max level
Gestating sows	%	20
Lactating sows	%	5
Finisher	%	10

How to use Soybean Hulls?

1) Soybean hulls can be used to replace wheat by-product in gestating sow diet up to a maximum of 20%. Similarly it can be used to replace wheat by-product up to 10% in finisher pig and 5% in lactating sow diets. However, the energy and amino acid levels of the final feeds have to be balanced by increasing the inclusion of higher nutrient density ingredients such as corn and High Efficiency Soybean Meal. (Please contact Dr. Yip Weng Hong, HP: 012-2330190 for further assistance.)

2) Alternately, soybean hulls can directly replace wheat by-product without having to reformulate the diets at the following usage level. Gestation sows : <10%, Lactation sows : <5% and Finisher : <5%.

Nutrient Specifications :

Soon Soon Soybean Hulls (Pellet/Crumbles)
Product Code: 1620/1630

Dry Matter, %	89.0
DE swine, kcal/kg	1887
ME swine, kcal/kg	1765
NE swine, kcal/kg	1360
Crude Protein, %	11.0
Lysine, %	0.64
Methionine, %	0.12
M+C, %	0.19
Tryptophan, %	0.07
Threonine, %	0.29
Arginine, %	0.59
Isoleusine, %	0.30
Valine, %	0.36
Dig Lysine, pig, %	0.48
Dig Methionine, pig, %	0.08
Dig M+C, pig, %	0.11
Dig Threonine, pig, %	0.84
Fat, %	3.0
Crude Fiber, %	35.0
NDF, %	58.0
ADF, %	45.0
Calcium, %	0.45
Total Phosphorus, %	0.19
Avail. Phosphorus, %	0.03
Sodium, %	0.01
Chloride, %	0.01
Linoleic Acid, %	1.0