

New Soy Protein Concentrate can be Used in Weanling Pig Diets

28 October 2016

US - A new source of soy protein concentrate can be used in diets fed to weanling pigs without negatively affecting digestibility of energy or nutrients, according to research conducted at the University of Illinois.

"Soy protein concentrate is typically produced by using an alcohol extraction process to remove soluble carbohydrates from soybean meal," said Hans H Stein, professor of animal sciences at the University of Illinois. "However, a new soy protein concentrate has been developed which combines a non-alcohol extraction process with enzymatic treatment of soybean meal."

Mr Stein, along with visiting scholar Maryane S. Oliveira, conducted three experiments to evaluate the nutritional value of this new soy protein concentrate product.

The soy protein concentrate contained 61.2 per cent crude protein compared with approximately 47.7 per cent for dehulled soybean meal. The standardised ileal digestibility (SID) of isoleucine and leucine and some dispensable amino acids was greater in soy protein concentrate compared with soybean meal, but for crude protein and most amino acids, no difference between soy protein concentrate and soybean meal was observed.

Soy protein concentrate contained 3,479 kcal/kg digestible energy (DE) and 3,299 kcal/kg metabolisable energy, compared with 3,319 and 3,093, respectively, in soybean meal. Removal of oligosaccharides, which weanling pigs cannot digest, and other soluble carbohydrates from soybean meal resulted in greater concentration of crude protein, which is likely the reason for the greater concentration of digestible energy in the soy protein concentrate.

There was no difference in the standardised total tract digestibility (STTD) of phosphorus between soy protein concentrate and soybean meal, but for both ingredients, addition of microbial phytase increased phosphorus digestibility by about 35 per cent.

"Soy protein concentrate is one way of feeding high-quality soy protein to weanling pigs," said Mr Stein. "This new technology produces soy protein concentrate that is high in digestible amino acids and energy."

ThePigSite News Desk

