Researchers re-evaluate swine nutrition

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For a new study in the *Journal of Animal Science*, researchers evaluated how different concentrations of lipids affect growth performance in weaned pigs. The researchers also studied how different sources of lipids affect pigs.

According to the researchers, it is important to re-evaluate energy density and nutrient absorption because swine genetics have improved over the years.

Dr. Olayiwola Adeola, animal science professor at Purdue University, said small pigs have an issue with intestinal capacity to consume enough energy. This means that the intestines cannot absorb as much nutrients as pigs in other stages of growth. Adeola and his colleagues wanted determine whether to increase the different concentration of lipids or use different sources.

The growth performance study was conducted at nine different research stations across the United States. Researchers studied a total of 822 crossbred pigs for 35 days. The days were divided into three phases.

In these three phases, researchers studied the growth performance effects of feeds containing different percentage levels of a plant and animal source of lipids. The researchers used tallow as the animal source and soybean oil as the plant source of lipids.

During each phase, researchers decreased the amount of animal products like dried whey and fishmeal. Adeola said the feed in phase one was a

transition from milk to dry diets after weaning. During phase two, the feed was not as "high-powered" as the feed from phase one because the researchers reduced the type of nutrients normally in milk. The feed from phase three had an increase in plant products. This feed was similar to grow/finish feed that the pigs would consume in later stages of growth.

The researchers weighed the pigs at the beginning and end of each phase and calculated the average daily gain, average daily feed intake and the feed efficiency of the pigs.

Adeola said the results showed that the plant source was more efficient than the animal source. He said the concentration of energy source in feed is important to improve growth performance. He said lipids are a concentrated energy source compared with carbohydrates and proteins. He said this study supports the values of energy for soybean oil in the 2012 Swine NRC.

"If we were to use concentrated energy sources, it might be very helpful in counteracting some of the issues that limit growth of nursery pigs," Adeola said in an interview.

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