

Effects of Corn Oil or Choice White Grease on Digestibility in Growing Pigs

The latest issue of Journal of Animal Science published an article (Merriman et al., 2016) which looked at the effects of several different fat sources on diet digestibility in growing pigs. The authors hypothesized that different sources of fat with different fatty acid profiles influences total tract and mineral digestibility.

Materials and Methods

The researchers evaluated five sources of fat: corn oil, soybean oil, choice white grease, tallow, and palm oil. Sixty pigs were used in this experiment and diets were fed for 12 days. Diet total tract digestibility and mineral digestibility was calculated for all treatments.

Results

The researchers did not find any differences between corn oil, soybean oil, tallow, or palm oil. As a result, only the differences between corn oil and choice white grease will be discussed.

	Corn Oil	Choice White Grease
Calcium Digestibility	67.47%	54.07%
Phosphorous Digestibility	59.80%	53.52%
Fat Digestibility	84.59%	77.77%
Total Tract Digestibility	90.73%	89.25%

Table 1. Corn Oil and Choice White Grease Digestibility

Corn oil had better digestibility than choice white grease for calcium, phosphorous, fat, and total tract digestibility (Table 1).

Discussion

The researchers hypothesized the differences could be related to:

1. Quality of the choice white grease – fat could have been more oxidized
2. Amount of free fatty acids – the choice white grease had a greater concentration of FFA
3. Degree of saturation – choice white grease is a more saturated fat

Implications

This research demonstrates that corn oil has advantages over choice white grease as a fat source for growing pigs. Nutritionists may want to increase the mineral and energy density of diets when using choice white grease in order to provide similar nutrients to the animal. This would result in a more expensive diet when choice white grease is used as a fat supplement compared with corn oil.