

Production area does not affect phosphorus digestibility in soybean meal fed to pigs

July 28 2016

Research at the University of Illinois is helping to determine the effect of growing conditions on the nutritional value of soybean meal. "The digestibility of phosphorus is the same in soybean meal grown in various regions in the United States," says Hans Stein, professor of animal sciences at Illinois.

"The chemical composition of soybean meal is somewhat dependent on the area in which soybeans are grown, but it was not known if there are differences in the concentration of phytate among soybeans grown in different areas," Stein says. He and Kelly Sotak-Peper, then a doctoral candidate, set out to determine whether any differences existed.

They sourced soybean meal from crushing plants in three different areas within the United States: the northern growing area (comprising Michigan, Minnesota, and South Dakota), eastern growing area (Georgia, Illinois, Indiana, and Ohio), and western growing area (Iowa, Missouri, and Nebraska).

They measured no statistically significant differences in concentrations of phosphorus, or in the percentage of phosphorus bound to phytate, among soybean meal from the different regions. There were also no differences in apparent total tract digestibility (ATTD) or standardized total tract digestibility (STTD) among pigs fed soybean meal from the three growing areas.

When microbial phytase was added to the diets to break down phytate,

the ATTD and STTD of phosphorus for soybean meal from all growing areas increased by 24 and 22 percent, respectively.

"When you have ingredients that come from a wide variety of growing conditions, there's a risk that using book values for nutritional information will not give you accurate information for a given batch," says Stein. "What these data indicate is that an average value for ATTD and STTD of [phosphorus](#) may be used regardless of the area in which the soybeans are grown."

More information: The paper, "Effects of production area and microbial phytase on the apparent and standardized total tract digestibility of phosphorus in soybean meal fed to growing pigs," was published in the June 2016 issue of the *Journal of Animal Science*. [www.animalsciencepublications. ... s/articles/94/6/2397](http://www.animalsciencepublications.com/doi/10.2527/jas.2016.1137)

Provided by University of Illinois at Urbana-Champaign

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