
132 **Energy digestibility in 23 sources of distillers**

dried grains with solubles fed to pigs. S. M. Curry*,
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In the United States, the primary feedstock for ethanol production is corn. Illinois is one of the major corn producers in the nation, and much of that corn is used to produce ethanol. The resulting co-product is distillers dried grains with solubles (DDGS). In recent years, ethanol plants have been centrifuging solubles and the resulting DDGS contains more protein and fiber, but less fat. Therefore, the purpose of this experiment was to determine if the concentration of DE and ME in DDGS produced in and around Illinois varied among plants. Twenty-four barrows (average initial BW: 28.1 ± 1.8 kg) were randomly allotted to 1 of 24 dietary treatments in a 24×8 Youden square design with 24 diets and 8 periods. Approximately 250 kg of DDGS were procured from 11 ethanol plants in Illinois, 4 ethanol plants in Indiana, 4 ethanol plants in Iowa, 2 ethanol plants in Missouri, and 2 ethanol plants in Wisconsin. Twenty-four diets were formulated: 1 diet containing 97.8% corn and 23 diets containing 40% of each source of DDGS. Each period consisted of a 7 d diet adaptation period, and feces and urine were collected during the following 5 d based on the marker to marker approach. Results indicated that DDGS had high variability in concentration of ADF, NDF, and lignin (CV = 18.01, 10.09, and 34.74%, respectively). There was a wide range of particle size (266 to 930 μm) and bulk density (368 to 548 g/L) observed among the 23 sources of DDGS. The acid hydrolyzed ether extract ranged from 5.3 to 10.6% indicating that some ethanol plants were centrifuging solubles to remove the corn oil from the solubles. The DE, ME, ATTD of GE, and ATTD of N in DDGS were different ($P < 0.05$) among sources. Correlation coefficients among and between chemical and physical components and DE and ME were determined. Prediction equations for DE and ME in DDGS were generated, but the accuracy with which DE and ME could be predicted was relatively low. In conclusion, DDGS procured from Illinois and surrounding states vary in concentration of ether extract, but more research is needed to generate prediction equations that can accurately predict DE and ME in DDGS.

Key Words: distillers dried grains with solubles, energy, pigs