303 **Effects of extrusion of corn and oats on the digestibility of energy and nutrients in diets fed to pigs.** Y. Liu*, O. J. Rojas, H. H. Stein, *University of Illinois, Urbana*

An experiment was conducted to determine the effects of extruding corn and oats on concentration of DE and ME and the apparent total tract digestibility (ATTD) of energy and nutrients when fed to growing pigs. Three diets were formulated to contain the same concentration of corn (53%), oats (15%), and soybean (32%). The treatments were 1) nonextruded corn, nonextruded oats, and extruded full fat soybeans; 2) nonextruded oats, extruded corn, and extruded soybeans; and 3) extruded oats, extruded corn, and extruded soybeans. Thirty-six barrows (initial BW: 21.62 ± 2.04 kg) were housed in metabolism cages and allotted to a randomized complete block design with 3 diets and 12 replicate pigs per diet. Feces and urine were collected for 5 d following a 7-d adaptation period. The concentrations of DE and ME and the ATTD of CP, GE, ADF,

Table 303. Effects of extruding corn and oats on the apparent total tract digestibility (ATTD) of energy and nutrients and the concentration of DE and ME

	Diet[1]				
Item	1	2	3	SEM	*P*-value
ATTD, GE, %	85.88[b]	88.04[a]	87.82[a]	0.44	<0.01
ATTD, CP, %	84.51[b]	86.98[a]	86.54[a]	0.63	<0.05
ATTD, ADF, %	37.33	46.96	43.70	3.04	0.09
ATTD, NDF, %	49.96[b]	59.92[a]	50.37[b]	1.93	<0.01
DE in diet, kcal/kg	3,652[b]	3,851[a]	3,845[a]	18.96	<0.01
ME in diet, kcal/kg	3,495[b]	3,718[a]	3,709[a]	25.45	<0.01

[1]Diet 1 = nonextruded corn, nonextruded oats, and extruded soybeans; Diet 2 = nonextruded oats, extruded corn, and extruded soybeans; Diet 3 = extruded oats, extruded corn, and extruded soybeans.

and NDF were calculated. Results indicated that the ATTD of CP and GE and the concentrations of DE and ME were greater ($P < 0.05$) in pigs fed the extruded corn and soybeans diet and the extruded corn, oats, and soybeans diet compared with pigs fed the diet containing nonextruded corn and oats and extruded soybeans. The ATTD of ADF was not different among dietary treatments, but the ATTD of NDF was greater ($P < 0.05$) in the extruded corn and soybeans diet than in the other diets. In conclusion, extrusion of corn increases the ATTD of energy, protein, and NDF of diets fed to growing pigs.

Key Words: digestibility, extrusion, pigs