121 Effects of pelleting and extrusion on energy digestibility in pig diets containing different levels of fiber. Oscar J. Rojas*[1], Ester Vinyeta[2], and Hans H. Stein[1], [1]*University of Illinois, Urbana, IL,* [2]*Bühler AG, Uzwil, Switzerland.*

An experiment was conducted to determine effects of pelleting, extrusion, and extrusion plus pelleting on energy and nutrient digestibility in diets containing low, medium, or high levels of fiber. Three diets were formulated: (1) a low fiber diet contained corn and soybean meal; (2) a medium fiber diet contained corn, soybean meal, and 25% distillers dried grains with solubles (DDGS); and (3) a high fiber diet contained corn, soybean meal, 25% DDGS, and 20% soybean hulls. Each diet was divided into 4 batches after mixing and the treatments included the following: (1) no further processing; (2) pelleted at 85°C; (3) extruded at 115°C using a single screw extruder; and (4) extruded at 115°C and then pelleted at 85°C. Thus, 12 different diets were produced. A total of 24 growing pigs (initial BW: 26.5 ± 1.5 kg) with a T-cannula fitted in the distal ileum were allotted to the diets in a split-plot design with 8 pigs allotted to the low fiber diets; 8 pigs were allotted to the medium fiber diets; and 8 pigs were allotted to the high fiber diets. Diets were fed to the pigs during 4 14-d periods. Within each type of diet, the 8 pigs were fed the diets produced using the 4 processing technologies. Thus, there were 8 replicate pigs per diet. Each of the 4 14-d periods consisted of 5 d for adaptation, 5 d of fecal collection, and ileal digesta were collected on d 13 and 14 of each period. Results indicated that pelleting, extrusion, or extrusion and pelleting improved ($P < 0.05$) the apparent ileal digestibility (AID) of starch and most indispensable AA. In most cases, there were no differences between the pelleted, the extruded, and the extruded plus pelleted diets. The apparent total-tract digestibility (ATTD) of energy and the ME of the diets were also improved ($P < 0.05$) by pelleting and by the combination of extrusion plus pelleting, and extrusion alone improved ATTD of energy and ME in the low fiber and the high fiber diets. Results of this experiment indicate that energy utilization may be improved by pelleting or extrusion or by the

combination of the 2 technologies, but the response to extrusion seems to be greater in diets that are relatively high in fiber.

Key Words: extrusion, fiber, pelleting