

195 Effects of dietary lipids on net energy of corn in diets fed to growing and finishing pigs. D. Y. Kil*¹, F. Ji¹, R. B. Hinson², A. D. Beaulieu³, L. L. Stewart¹, G. L. Allee², J. F. Patience³, J. E. Pettigrew¹, and H. H. Stein¹, ¹*University of Illinois, Urbana*, ²*University of Missouri, Colombia*, ³*Prarie Swine Centre, Saskatoon, SK, Canada*.

The effect of dietary lipids on the NE of corn in diets fed to growing and finishing pigs was measured. Forty eight growing and 48 finishing bar-

rows (initial BW: 27 and 86 kg, respectively) were allotted to 8 outcome groups of 6 pigs based on BW. Within each outcome group, pigs were randomly allotted to 1 of 6 treatment groups. Two treatments at each stage of growth served as an initial slaughter group. The remaining pigs were assigned to 4 different diets, housed individually, and harvested after 28 (growing pigs) or 35 d (finishing pigs). At each stage of growth, a low lipid basal diet containing corn and soybean meal and no added lipids and a high lipid basal diet containing corn and soybean meal and 8% soybean oil were formulated. Two additional diets were formulated by mixing 75% of each basal diet and 25% corn. Energy retention in each pig was calculated using the comparative slaughter method. Results showed that supplemental lipids had no effect on ADG, ADFI, and G:F of growing pigs, but improved ($P \leq 0.01$) G:F for finishing pigs. The addition of corn increased ($P \leq 0.05$) ADFI, but decreased ($P \leq 0.05$) G:F for growing pigs, but there was no effect of the addition of corn on ADG, ADFI, and G:F for finishing pigs. For growing pigs, corn tended to increase ($P \leq 0.10$) lipid gain:protein gain and energy retention but dietary lipids had no effect on lipid gain:protein gain or energy retention. For finishing pigs, lipid gain, lipid gain:protein gain, and energy retention were not influenced by the addition of dietary lipids or corn. The NE of diets containing supplemental lipids was greater ($P \leq 0.01$) than the NE of diets containing no supplemental lipids. No effect of additional corn on NE of diets was observed. The NE of corn in the diet containing supplemental lipids (2,053 kcal/kg) was not different from the NE of corn in the diet containing no supplemental lipids (2,197 kcal/kg). The NE of corn was greater ($P \leq 0.05$) for finishing pigs (2,607 kcal/kg) than for growing pigs (1,643 kcal/kg). In conclusion, NE of corn is not affected by supplemental lipids, but the NE of corn is greater for finishing pigs than for growing pigs.

Key Words: corn, lipids, net energy