and $P < 0.06$, respectively) average (25, 22, 22, and 22 mm) and 10th rib (21, 17, 17, and 18 mm) backfat depth compared with control pigs. Pigs fed astaxanthin tended ($P < 0.10$) to have an increased percentage of fat-free lean (53.2, 55.6, 55.5, and 54.5%), and pigs fed 5 or 10 ppm were the leanest (quadratic, ($P < 0.10$). At 24 h postmortem, pigs fed astaxanthin tended ($P < 0.06$ and $P < 0.08$, respectively) to have lower L* (60.3, 55.3, 58.9, and 56.2) and b* (15.8, 14.8, 14.4, and 15.1) for the cut surface of the 10th rib loin muscle, indicating a darker color. At the time of the study, the improved carcass characteristics of pigs fed astaxanthin resulted in a numeric increase in the net profit per pig of $2.44 and $1.95 for those fed 5 and 10 ppm astaxanthin, respectively. In conclusion, growth performance of pigs fed 5, 10, or 20 ppm astaxanthin resulted in a numeric increase in the net profit per pig of $2.44 and $1.95 for those fed 5 and 10 ppm astaxanthin, respectively. In conclusion, growth performance of pigs fed 5, 10, or 20 ppm astaxanthin was greater ($P < 0.05$) G:F than WD8, and CD and WD4 had intermediate. Pigs fed CWG had greater ($P < 0.05$) ADFI than these fed SBO in phase I. In phase II and overall, pigs fed SBO had lower ($P < 0.05$) ADFI than pigs fed PO. The addition of fats had no effect on carcass measurements compared with the control diet, but pigs fed PO had greater ($P < 0.05$) increase in BFTR compared with SBO and AVB. In conclusion, different fats produced different practical results, consistent with different energy values. It is not clear from these data whether CWG has greater energy than SBO.

Key Words: dietary fats, growth performance, growing-finishing pigs

174 (National Pork Board Research Award) Soybean meal level modifies the impact of high immune stress on growth and feed efficiency in pigs. M. E. Johnston1, R. D. Boyd*1, C. E. Zier-Rush1, and C. E. Fralick2,1The Hanor Company, Franklin, KY, 2Swine-Tek Research, Van Wert, OH.

This study was conducted to verify the SID lysine requirement of pigs fed Paylean (PLN) for 21 d, using carcass growth and G:F ratio as primary criteria. A second objective was to verify previous work from our lab that whole-body growth (WB) was promoted equally by low and high dietary SBM levels while carcass growth (Carc) was constrained by high SBM content. A total of 420 Camborough x TR-4 castrates (98.3 ± 3.8 kg) were allotted to diet in a 4 x 2 factorial arrangement (48 pens, 6 pens/diet). Four SID lysine levels were prepared (0.65, 0.75, 0.85, 0.95% SID) by summit blend; each having 5 PPM PLN. Diets were formulated with only (a) SBM (H-SBM) or (b) reduced SBM (L-SBM) plus lysine, threonine. Pigs were unexpectedly infected with diseases that trigger systemic inflammation. Diagnostic results confirmed pigs as PRRS and PCV2 (circovirus) positive; PCV2 tissue lesions were present. Mortality and morbidity was 6 times normal (12.7%) for 16 weeks. The inflammatory nature of these viruses is evident from the presence of circulating pro-inflammatory cytokines. The main effect of SID lysine was not significant ($P > 0.25$) for WB ADG or G:F, however, the effect of SBM level was ($P < 0.05$). H-SBM pigs grew faster (.99 vs