195 Interactive effects of dietary L-carnitine and ractopamine HCI (Paylean®) on finishing pig carcass characteristics and meat quality. B. W. James1, M. D. Tokach1, R. D. Goodband1, J. L. Nelson1, S. S. Dritz1, K. Q. Owen4, and J. C. Woodworth5, 1 Kansas State University, Manhattan, 2 Lonza, Inc., Fair Lawn, NJ.

Three experiments utilizing 1,356 pigs were conducted to determine the interactive effects of dietary carnitine and ractopamine HCI (Paylean®) on carcass and meat quality. Experiments were arranged as factorial arrangements with main effects of carnitine and ractopamine. Carnitine levels were 0, 25, or 50 ppm in Exp. 1 and 2 and 0 or 10 ppm in Exp. 3. Ractopamine levels were 0, 5, or 10 ppm in Exp. 1, and 0 or 10 ppm in Exp. 2, and 3. Dietary carnitine was fed from 38 kg to market (Exp. 1 and 3) or for 4 wk before market (Exp. 2). Ractopamine was fed for 4 wk. Experiments 1 and 2 were conducted at university research facilities and Exp. 3 in a commercial research barn. A carcass × RAC interaction (P < 0.02) was observed for visual color, L*, and a*/b* in Exp. 1. In pigs fed RAC, increased a*-b* and increased visual color scores and a*/b* compared to pigs not fed RAC. Ultimate pH tended to increase (linear, P < 0.07) with increasing carnitine. Drip loss decreased (linear, P < 0.04) in pigs fed increasing carnitine. In Exp. 2, a carcass × RAC interaction was observed (P < 0.04) for visual firmness and drip loss. Visual firmness scores decreased in pigs fed increasing carnitine and no RAC, but increased with increasing carnitine when RAC was added to the diet. Drip loss decreased with increasing levels of carnitine when fed with RAC. Percentage lean was higher (P < 0.01) for pigs fed RAC. A carcass × RAC interaction (P < 0.03) was observed in Exp. 3 for fat thickness and percentage lean. Fat thickness decreased and lean percentage increased in pigs fed carnitine or RAC, but the responses were not additive. Pigs fed carnitine tended to increase (P < 0.06) to have decreased drip loss. Pigs fed RAC had decreased (P < 0.05) 10th rib and average backfat and decreased drip loss compared to pigs not fed RAC. These results suggest that ractopamine increases carcass leanness and supplemental carnitine reduces drip loss when fed in combination with ractopamine.

Key Words: Carnitine, Ractopamine, Pigs

197 Evaluation of a botanical extract in non-medicated diets for pigs 15 to 113 kg body weight. B. V. Lawrence1, J. D. Hahn1, S. Hansen1, J. Hedges1, E. Hansen1, R. Musser1, and J. Cortley2, 1 Hubbard Feeds Inc., Mankato, MN, 2 Prince Agri Products, Inc., Quincy, IL.

A botanical extract (Xtract) addition to antibiotic free diets was evaluated in 3 trials. In Exp. 1, 549 pigs (15.1 ± 0.82 kg) were allotted to 1 of 3 non-medicated diet levels: 0, 29.6 g/d and 59.2 g/d of fish oil. On d 0 to 14, pigs were i.p. injected with either 200 µg/L Tylan or 150 µg/L Xtract for a 10-d treatment. On d 21, plasma IL-1β (P ≤ 0.01) and plasma IL-10 (P ≤ 0.10) in LPS-challenged pigs. Pigs fed fish oil also had higher plasma IGF-1 (P ≤ 0.10) as compared to pigs fed the corn oil diet on both d 14 and 21. No LPS-challenge × oil interaction was observed for plasma GH (P ≥ 0.10). These data suggest that fish oil alters indices of the immune axis that may lead to improved growth performance during an inflammatory challenge.

Key Words: Pigs, Fish Oil, Lipopolysaccharide