
Two hundred ninety-five pigs (initially 5.6 kg and 21 ± 2 d of age) were used to determine the effect of different soy protein sources fed during phase I (0 to 14 postweaning) on subsequent growth performance. Four experimental treatments were fed to pigs from 0 to 14 postweaning. All pigs were fed the same phase I (0 to 14 postweaning) diet that contained 10% dried whey, 7.5% spray-dried porcine plasma, 1.75% spray-dried blood meal, and formulated to contain 1.5% lysine and 44% methionine. On d 14 postweaning, pigs were switched to the same phase II diet (0 to 28 postweaning) diet that contained 10% dried whey, 2.5% soy-dried blood meal, and formulated to contain 1.5% lysine and 44% methionine. On d 21 postweaning (10.9 kg BW), pens were randomly assigned to one of six experimental diets. Experimental diets were corn-soybean meal based and contained 0, 3, 1, 1.5, 2, or 2.5% spray-dried blood meal, and formulated to contain 1.15% lysine and 35% methionine. During phase I, ADG, ADFI, and G/F were 245 g, 277 g, and 86, respectively. During phase II, ADG, ADFI, and G/F were 281 g, 340 g, and 52, respectively. During phase III, there was a linear (P < 0.05) decrease in ADG and G/F as spray-dried blood meal increased. However, the reduction in ADG and G/F was only evident at 2 and 2.5% spray-dried blood meal. Lower inclusions of blood meal (< 2%) had no influence on pig performance. In conclusion, if the early-weaned pig is fed complex phase I and II diets containing high quality protein sources from weaning to 11 kg, a simple corn-soybean meal diet can be fed from 11 to 23.5 kg without sacrificing growth performance.

Key Words: Blood Meal, Pigs, Growth Performance.

---


A total of 192 pigs (initially 3.6 kg and 12 d of age) was used in a 28 d growth trial to determine the optimal soybean meal level in starter diets for the 12-d-old weaned pig. Pigs were allotted by sex to eight treatments with 6 or 10 pigs per pen. From d 0 to 14 postweaning, pigs were fed experimental diets containing 0, 5, 10, and 15% soybean meal and formulated to contain 1.7% lysine and 49% methionine. Soybean meal and casein were substituted for dried skim milk on a lysine and threonine basis. The diets contained 7.5% spray-dried porcine plasma, 1.75% spray-dried blood meal, 4.5%选择性甲苯酸粉, and 25% dried whey. All pigs were fed the same diet from d 0 to 21 postweaning containing 1.4% lysine, 20.9% soybean meal, 2.5% spray-dried porcine plasma, 2.5% spray-dried blood meal, and 20% dried whey. From d 21 to 28 postweaning, pigs were fed a diet containing 1.25% lysine, 2.5% spray-dried blood meal, and 10% dried whey. A linear (P < 0.01) improvement in ADG and ADFI was observed in the diet from 0 to 14 postweaning. For the cumulative period (d 0 to 28), there was a linear (P < 0.02) improvement in ADG and a linear (P < 0.07) and quadratic (P < 0.08) improvement in ADFI as soybean meal level increased in the diet during d 0 to 14 postweaning. In conclusion, up to 15% soybean meal can replace dried skim milk as a protein source in the diet for pigs weaned at 12 d of age.

---


A total of 216 pigs (initially 4.9 kg and 11 d of age) was used in a 35 d growth trial to determine the effect of dietary L-carnitine on growth performance and tissue arachidonic acid contents for the early weaned pigs when fed a corn-based plasmabased diet. Pigs were blocked by weight, ancestry, and sex in a randomized complete block design resulting in six pigs per pen and six pens per treatment. Four males and four females were slaughtered at the start of the study and carcass composition was determined. Experimental diets were fed in two phases from d 0 to 35 postweaning. During phase I (0 to 14 postweaning), the control diet was casein-soybean meal based and included 7.5% spray-dried porcine plasma, 2.5% soybean meal, 1.75% spray-dried blood meal (SDBM), and formulated to contain 1.5% lysine and 44% methionine. On d 14, all pigs were switched to a phase II diet (0 to 35 postweaning) diet that contained 10% DW and 2.5% SDBM and formulated to contain 1.5% lysine and 36% methionine. L-Carnitine replaced sucrose in the phase I and II control diets to provide dietary L-carnitine levels of 0, 250, 500, 750, 1000, and 1250 ppm. On d 35, three barrows and three gilts per treatment (pig/block) were ground for carcass composition. From d 0 to 14 postweaning, increasing L-carnitine had no effect on growth performance. From d 14 to 35 and d 0 to 35, there were no differences in ADG and ADFI; however, pigs fed the 1000 ppm L-carnitine were more efficient (P < 0.07) over the entire trial and were 8% heavier on d 33 than pigs on the positive control treatment. Percentage carcass CP, lipid and daily tissue arachidonic acid (DFA) were not influenced (P > 0.05) by dietary L-carnitine on d 35. However, daily fat accretion (DFA) was affected quadratically (P < 0.09) with increasing daily L-carnitine with pigs on the 750 ppm L-carnitine having the lowest DFA. Based on the results of this experiment, L-carnitine addition reduces daily fat accretion and improves G/F when fed during the nursery phase.

Key Words: L-Carnitine, Pigs, Growth performance.