

## PORK QUALITY

**Title:** Feeding CLA to Improve the Production and Quality Characteristics of Pork – **NPB #98-136**

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### Abstract

Two experiments were conducted to assess the efficacy of feeding conjugated linoleic acid (CLA) to market pigs. Characteristics of growth, efficiency, carcass traits and meat quality were measured. In experiment 1, (n=92) pigs were fed 0.75% CLA in the diet at varying starting points in the growing phase (28 kg, 57 kg and 86 kg) until slaughter at 115 kg of body weight. Feed intake and average daily gain were not affected by CLA supplementation, but feed efficiency increased quadratically with increased time on CLA. Additionally, backfat thickness decreased linearly and loineye area increased linearly with increasing time on CLA. Subjective quality scores for marbling and firmness increased linearly in response to CLA feeding. Objective color measures of loin chops for yellowness increased ( $p < .05$ ) with CLA and redness scores tended to increase with CLA. No differences were observed for water holding capacity, but CLA chops exhibited lower lipid oxidation values at 1 day of retail shelf storage. Additionally, bellies tended to be firmer with CLA supplementation compared with control bellies. Sensory characteristics for loin chops were not affected by CLA supplementation.

Experiment 2, (n=64) consisted of three genotypes, stress gene free (normal), heterozygous stress (carrier) and homozygous stress (stress) fed 0.75% CLA or a control diet. Normal pigs on CLA had significantly greater gain to feed and average daily gain compared with normal pigs on the control diet. Carrier and stress pigs did not exhibit the same response. Tenth rib fat was not affected by CLA supplementation, but last rib fat was higher for normal pigs on CLA compared to normal pigs on the control diet. No differences were observed with CLA supplementation for color, marbling, firmness or sensory characteristics for any genotype.

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