

Effect of Conjugated Linoleic Acid on Fatty Acid Composition and Lipid Oxidation of Pork Meat

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The effects of dietary conjugated linoleic acid (CLA) on fatty acid composition and lipid oxidation of pork was investigated. CLA was synthesized by alkaline isomerization method using corn oil. A total of twenty pigs were fed one of the following diets replaced 5% of the lipid with CLA or corn oil: control; 5% corn oil replaced with lipid content basis; 1% CLA + 4% corn oil; 2.5% CLA + 2.5% corn oil; and 5% CLA. Four weeks later, pork loin was used to measure the changes in CLA concentration, fatty acid compositions and thiobarbituric acid reactive substances (TBARS) for 21 days storage at 4°C.

Pork loins from CLA-supplemented diets groups showed significantly ($p < 0.05$) higher CLA content compared to that of control group. The contents of arachidonic, linoleic, palmitic, and myristic acid were increased as well as CLA content by feeding a CLA-supplemented; However, the content of oleic acid was decreased by dietary CLA-supplementation. The content of CLA was not significantly ($p > 0.05$) changed during chilled storage. TBARS of pork loin samples from CLA-supplemented groups (2.5% and 5%) was not significantly increased compared to that from control or 1% CLA-supplemented groups during storage.

These results suggest that CLA revealed the inhibition of lipid oxidation with increasing the CLA content and changing the fatty acid composition.