

Title Oxidative changes of fresh loin from pig, caused by dietary conjugated linoleic acid and monounsaturated fatty acids, during refrigerated storage

Author Diana Martin, Teresa Antequera, Elena Muriel, Ana I. Andres and Jorge Ruiz

Citation Food Chemistry, Volume 111, Issue 3, 1 December 2008, Pages 730-737

Keywords Conjugated linoleic acid; Monounsaturated fatty acids; Pork; Lipid oxidation; Volatile compounds; Refrigerated storage

Abstract

Three levels (0%, 1% and 2%) of a conjugated linoleic acid enriched oil (CLA) were combined with two levels of monounsaturated fatty acids (MUFA) (19% and 39% average) for pig feeding. Changes in instrumental colour, lipid oxidation (thiobarbituric acid reactive substances, TBARS) and volatile profile of fresh loin chops, as affected by dietary CLA, MUFA and CLA × MUFA, were studied throughout 7 days of refrigerated storage. Lightness (L^*) evolution was conditioned by dietary CLA, whereas changes in redness (a^*) and yellowness (b^*) were unaffected by dietary supplements. Dietary CLA at 2% led to higher TBARS values of loin chops at day 7 of refrigerated storage ($p < 0.05$), while MUFA supplementation and CLA × MUFA interaction did not affect lipid oxidation. Dietary CLA, MUFA or CLA × MUFA did not affect most volatile compounds of loin chops after 7 days of storage.