

Oxidized Oils in Animal Feeding: Effects on the Oxidative Stability of Rabbit Meat.

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The aim of this study is to evaluate the effect of the degree of oxidation of the oils used in rabbit feeds on the oxidative stability of rabbit meat. The dietary oils assayed (3%, w/w) were a fresh sunflower oil, a peroxidized sunflower oil (55°C, 245 h) and an oxidized sunflower oil (140°C, 31 h). A dietary supplementation with alpha-tocopheryl acetate (0 and 100 mg/kg) and Zn (0 and 200 mg/kg) on the oxidative stability of rabbit meat was also assayed in the experimental design. The effect of cooking (in a water bath to an internal temperature of 80°C) and storage of vacuum packed cooked rabbit meat at 5°C for 2 months was also studied. TBA value, lipid hydroperoxide (LHP) content and alpha-tocopherol content were determined in raw, cooked and refrigerated cooked rabbit meat. No differences among treatments were observed for TBA values in raw rabbit meat for any of the dietary factors studied (type of oil, alpha-tocopheryl acetate and Zn). Alpha-tocopherol content in raw meat was different depending on the degree of oxidation of the oil added to the feed, being lower in meats corresponding to peroxidized diets. On the other hand, dietary alpha-tocopherol supplementation led to a higher alpha-tocopherol content (206%) in meat, showing a greater oxidative stability assessed by means of ferrous-oxidation xylenol orange method.

Cooking brought about a significant increase in the TBA value of meats, which was more pronounced in those treatments that had not been supplemented with alpha-tocopheryl acetate. Refrigeration of cooked meat also produced a significant increase in TBA value of meat. Although the alpha-tocopherol content in refrigerated cooked meat after two months of storage was still higher in the supplemented treatments with alpha-tocopheryl acetate, no differences in the TBA value were observed for any of assayed dietary factors.