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PaperTitle # EFFECT OF DIETARY FAT QUALITY ON THE LIPID QUALITY AND STABILITY OF PORK PRODUCTS

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ABSTRACT

As a result of regulations in South Africa relating to quality of edible oils and fats for human consumption a large quantity of non-toxic used oils became available as a potential high energy food sources for animal production. The objective of this study was to evaluate the effect of the inclusion of such oils in pig diets on the lipid quality and stability of pork products. Twenty four Large White gilts weighing ± 32 kg, were randomly assigned to each of four dietary treatments (4 groups of 6 pigs each) that consisted of a control diet, a diet supplemented with 3 % fresh sunflower oil, a diet supplemented with 3 % used sunflower oil and a diet supplemented with 3 % used sunflower oil plus 200 mg/kg of α-tocopheryl acetate. Pigs were slaughtered after a 85 day feeding period at an average live weight of ± 100 kg for all pigs. Backfat and intramuscular fat quality of the dietary groups were compared and lipid stability of fresh and processed products manufactured from meat from each group were assessed. Sunflower oil supplementation had a negative effect on intramuscular and backfat quality. This research indicated that high levels of polyunsaturated fatty acids and oxidized oils in the diets of pigs had no effect on lipid stability of fresh pork but had a negative effect on lipid stability of processed pork products. It was, however, demonstrated that dietary supplementation with α-tocopheryl acetate may be efficient in retarding oxidative rancidity in processed products manufactured from fatty tissue originating from animals fed such oils.

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