

Effect of dietary rapeseed oil and antioxidant supplement on rabbit meat quality

S u m m a r y

The aim of the present study was to determine the effect of 3% rapeseed oil and antioxidant supplement on the fatty acid profile, cholesterol and vitamin E concentration in the lipids of rabbit meat, and on the sensory quality of meat. A total of 30 New Zealand White does and all of their progeny were investigated. Rabbits from the control group were fed a complete standard diet. Animals from groups II and III received a diet supplemented with 3% rapeseed oil, and those from group III additionally received a 100% greater proportion of dietary vitamin E as a natural antioxidant. Samples of rabbit meat taken from rear leg muscles were analysed for the fatty acid profile, total cholesterol, vitamin E and malonaldehyde (TBA). The *musculus longissimus dorsi* was subjected to sensory analysis including the assessment of meat aroma, juiciness, tenderness and palatability. Drip loss during 3-day cold storage (4°C) and thermal loss (loss of meat juices during cooking) were determined. Analysis of the composition of lipid fatty acids from rear leg meat showed a decrease in the level of saturated fatty acids in the experimental groups. The addition of 3% rapeseed oil caused a highly significant increase in the level of *n-3* polyunsaturated fatty acids (PUFA). There was a highly significant difference between the control group and the experimental groups in the amount of hypocholesterolemically desirable acids and a change in the *n-6/n-3* PUFA ratio, which decreased favourably in terms of modern human dietetics. The rapeseed oil supplement had a beneficial effect on the total cholesterol content of rabbit meat. In the experimental groups, the rabbit leg muscles studied were characterized by a highly significant increase in vitamin E content and significantly and highly significantly lower levels of malonaldehyde (TBA), being suggestive of the slower rate of meat lipid oxidation. The dietary rapeseed oil supplement had no effect on the sensory quality of meat. The lowest drip loss (%) and thermal loss were found in group III. The supplementation of rabbit diets with 3% rapeseed oil helps to produce meat with better health-promoting properties.