MALONDIALDEHYDE LEVELS IN FRESH AND FROZEN TURKEY MEAT

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Abstract. The aim of this study was to determine the levels of malondialdehyde (MDA) variation in healthy and dysfunctional limbs of turkey meat. MDA content in turkey breast and thigh muscle was determined by a high-performance liquid chromatography. For the study, the turkeys selected were of the same breed and age, consisting of male turkeys (breed BIG-6, 147 days of age), grown under the same conditions. Turkeys were divided into four treatment groups: I – healthy turkeys, II – turkeys with pododermatitis, III – turkeys with pododermatitis-arthritis-tendovaginitis, IV – turkeys with pododermatitis-*varus*-*valgus* deformities. MDA content in fresh and frozen turkey meat was tested at three time intervals: 24 hours and 3 and 6 months following the turkey slaughter.

The results on MDA content showed that the fat of breast and thigh muscles of the control (healthy) turkeys oxidized most intensively. It was found that 24 hours following the turkey slaughter, the MDA content in the breast muscles of control turkeys was by an average of 0.63 μmol/kg higher than in group II, 0.03 μmol/kg higher than in group III, and 0.59 μmol/kg higher than in group IV. The content of MDA in the thigh muscles of control group of turkeys was by 0.18 μmol/kg higher than in the muscles of group II and by 0.29 μmol/kg higher than in the muscles of group IV. The MDA content measured in group III was by 0.41 μmol/kg higher than in the control group.

After a total of 3 months following the turkey slaughter, MDA content in the control (I) group of breast samples was 1.47 μmol/kg higher than in group II, 0.7 μmol/kg higher than in group III, and 1.35 μmol/kg higher than in group IV. The MDA content in the thigh muscles of control turkeys was by 1.43 μmol/kg higher than in group II, 1.93 μmol/kg higher than in group III, and 2.81 μmol/kg higher than in group IV.

After a total of 6 months following the turkey slaughter, the MDA content in the breast samples of control group(I) was by 2.5 μmol/kg higher than in group II, 1.01 μmol/kg higher than in group III, and 3.34 μmol/kg higher than in group IV. The MDA content in the thigh muscles of control group of turkey was by 1.38 μmol/kg higher than in group II, 1.27 μmol/kg higher than in group III, and 2.66 μmol/kg higher than in group IV.

Keywords: turkey meat, limb pathology, lipid oxidation, malondialdehyde.