

THE INFLUENCE OF TURKEY LIMB PATHOLOGIES ON THE QUALITY OF TURKEY MEAT

Rasa Vaitukaitytė¹, Gražina Januškevičienė¹, Elena Bartkienė¹, Daiva Vidmantienė²,
Gražina Juodeikienė², Marija Stankevičienė³

¹*Department of Food Safety and Quality, Veterinary Academy, Lithuanian University of Health Sciences
Tilžės Str. 18, LT-47181, Kaunas, Lithuania, e-mail: rasa.vaitukaityte@lva.lt*

²*Department of Food Technology, Kaunas University of Technology
Radvilėnų Str. 19, LT-50254, Kaunas, Lithuania; e-mail: grazina.juodeikiene@ktu.lt*

³*Department of Infectious Diseases, Veterinary Academy, Lithuanian University of Health Sciences
Tilžės Str. 18, LT-47181, Kaunas, Lithuania, e-mail: marija@lva.lt*

Abstract. The goal was to determine the effect of turkey limb pathologies and to assess the quality of the acoustic method for application in turkey meat quality analysis. Male turkeys (breed BIG-6, 147 days of age) of the same breed and age and grown under the same conditions were selected for the experiment. The turkeys were divided into four groups: I – healthy turkeys, II – turkeys with pododermatitis, III – turkeys with pododermatitis-arthritis-tendovaginitis, and IV – turkeys with pododermatitis-*varus-valgus*-deformities. The chemical composition and quality of turkey meat was investigated by standard methods (AOAC, 1995). The acoustic method was realized by use of an acoustic spectrometer LFRA operating within the range 4.95 to 35.71 kHz of short pulses. The measurements were performed at optimal acoustic signal frequency of 22.73 kHz.

Variable dependence of turkey breast and thigh quality indicators on the turkey limb pathologies was determined. The results showed that the acoustic method can be used for analysis of some quality indicators of turkey breast and legs. There were strong correlations determined between the amplitude of (Ap) acoustic signals flowing through samples and the values of dry matter content in turkey breast samples ($R=0.8930$), pH and water holding ($R=0.8263$) of turkey legs ($R=0.8702$) and ash content ($R=0.7696$).

Keywords: turkey meat, limb pathology, quality indicators, acoustics.