OPTIMIZATION OF THE TENDERIZATION PROCESS AND NUTRITIONAL QUALITY OF PHEASANT MEAT

Paul-Corneliu BOIȘTEANU[1], Elena-Iuliana FLOCEA[1], Mugurel MUNTEANU[1] Marius-Mihai CIOBANU[1]

e-mail: paul.boisteanu@iuls.ro

Abstract

This study aims to explore and enhance the quality attributes of pheasant meat (*Phasianus colchicus*). The animals were not used exclusively for research purposes; rather, the game reserve manager authorized the collection of samples for scientific analysis, as outlined in the annual wildlife management plan. The research protocol adheres to bioethical guidelines, including principles of Replacement, Reduction, and Refinement to minimize animal use and harm. Feed supplementation was provided during the winter months, averaging 85.5 kg/animal/year, consisting of cereals, seeds, fruits, and root vegetables such as beets, turnips, and potatoes. Two distinct anatomical regions, the breast (*Musculus pectoralis*) and thighs (*Musculus femoralis*), were subjected to different tenderization techniques, specifically tumbling and tenderizing treatments. The study focused on chemical composition, texture, and pH balance, providing key insights into optimizing both the tenderness and nutritional value of pheasant meat based on the applied methods. The raw material was obtained from a hunting reserve by Romania's National Hunting and Wildlife Protection Legislation (Law No. 407/2006). Meat processing involved anatomical sectioning, deboning, and trimming in a microproduction unit, followed by storage in controlled refrigeration at 2-4°C to ensure optimal analysis conditions. Pheasant meat is recognized as a valuable source of high-quality protein essential for tissue growth and repair. The literature confirms a significant content of vitamins and minerals, including vitamin B12, iron, and zinc, which support optimal human health. The results indicated that while both tenderization techniques are effective, tumbling produced a marginal but notable improvement in meat tenderness. Although modest, this improvement can have a meaningful impact on both consumers and the food industry, highlighting the importance of selecting the optimal processing method to achieve the desired quality of the final product. Our research offers valuable insights for the food industry, suggesting promising directions for developing new pheasant meat products and promoting a healthy, balanced diet. The use of diverse evaluation methods provided a comprehensive understanding of pheasant meat quality and tenderness, reinforcing confidence in the study's findings.

Keywords: nutritional quality, pheasant meat, tenderization techniques, meat tenderness