THE EFFECT OF FROZEN STORAGE ON THE QUALITY OF VACUUM-PACKAGED TURKEY MEAT

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Abstract. The objective of this study was to determine changes in the chemical composition, physicochemical and organoleptic properties, and lipid oxidation rate of breast muscles (*musculus pectoralis*) of male heavy-type BIG–6 turkeys. Vacuum-packaged meat samples were stored in the freezer for two and six weeks.

Freezer storage of vacuum-packaged turkey meat had no significant effect on weight loss which, however, tended to increase throughout storage. A significant increase in the content of total protein ($p \leq 0.05$) and soluble protein ($p \leq 0.01$) was noted in meat stored for six weeks. The concentrations of other chemical compounds (dry matter, fat, minerals and non-protein nitrogen) were similar in all groups. Frozen meat stored for two and six weeks had a higher contribution of redness (a^*) in comparison with meat evaluated after chilling (control group). A significantly lower contribution of yellowness (b^*) and lower drip loss were noted in meat stored for six weeks. No significant increase in lipid oxidation rates (TBARS values) or significant changes in the eating quality of meat were observed. The shear force of frozen meat stored for two weeks decreased significantly relative to the control group.

Keywords: turkey meat, meat quality, chemical composition, physicochemical and sensory properties, freezer storage, vacuum packaging.