Title Protein and lipid oxidative stability of fresh ostrich M. Iliofibularis packaged under different modified atmospheric packaging conditions

Author C. Leygonie, T.J. Britz and L.C. Hoffman

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Abstract

This study investigated the aptness of modifiedatmosphericpackaging (70:30, O_2:CO_2 (O_MAP); 70:30, N_2:CO_2 (N_MAP)) and traditional overwrap (control) for freshostrich steaks, stored at 4 ± 1 °C for 10 days. N_MAP showed the least oxidation, O_MAP the highest and the control moderate. Myoglobin (CIE a^*) was gradually oxidised in all packaging atmospheres, but the O_MAP oxidised at the slowest rate, remaining significantly more bloomed from day 0 (17.86 ± 1.17) to 8 (9.78 ± 1.12). Free carbonyls were constant in all packaging environments. TBARS remained constant for the N_MAP (2.39 ± 0.21 mg MDA/kg meat) and the overwrap (3.06 ± 0.29 mg MDA/kg meat), but the O_MAP increased significantly (9.96 ± 1.02 mg MDA/kg meat) to day 10. The pH increased in the control but remained constant in the MAP treatments. The control also showed the greatest drip loss (>5%). The success of MAP application to ostrich will depend on the ability of the consumer to detect the by-products of lipid oxidation.