

Effect of Modified Atmosphere Packaging (MAP) on the Shelf Life of Refrigerated, Cubed, Turkey Thigh Meat

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This research was designed to investigate the effect of Modified Atmosphere Packaging (MAP) on the shelf life of refrigerated, cubed, turkey thigh meat. Modified atmospheres of 25% carbon dioxide and 75% nitrogen and 20% carbon dioxide, 60% oxygen, and 20% nitrogen were used for MAP1 and MAP2 respectively. All sample packages, MAP1, MAP, and Air Control, were stored at 0.5°C. Headspace gas analysis, color measurement, sensory evaluation, aerobic plate count, and oxidative deterioration of fat were examined over 21 days of storage.

Microbiological spoilage was significantly delayed by modified atmosphere treatments. MAP1 delayed fat rancidity while MAP2 increased rancidity because of the high amount of oxygen. The redness of turkey thigh meat was increased in both MAPs. MAP2 showed the highest a values up to storage day 12 and then MAP1 had the highest a values on storage days 16 and 21. Sensory evaluations showed preferences for MAPs in all variables: color, appearance, and odor. Thus, modified atmosphere treatment 1 (MAP1) demonstrated the best effect on the extension of the shelf life of turkey meat in this study.