

ABSTRACT

Volatile Lipid Oxidation Products of Wagyu and Domestic Breeds of Beef

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The influence of beef source, cooking method, and refrigerated storage time on the contents of volatile lipid oxidation products of Wagyu and domestic sources of beef was determined. Longissimus dorsi muscle from Japanese Wagyu, American Wagyu, Longhorn, Angus, and U.S. Choice carcasses was boiled or roasted and stored for 0 or 3 days at refrigerator temperatures. With storage time, the contents of lipid oxidation products increased significantly ($P < 0.05$). Interactions between beef source and storage time were significant ($P < 0.05$) for hexanal, 2-pentylfuran, octanal, nonanal, and other major lipid oxidation products. Beef source was shown to have a significant effect on the content of these compounds following 3 days of storage but not immediately following cooking (0 day). The contents of lipid oxidation products were higher in the Japanese and American Wagyu breeds than in other domestic beef sources. In general, cooking method had only minor influences on the content of lipid oxidation products.

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