

Public Abstract

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Department:Animal Sciences

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Title:EVALUATING QUALITY CHARACTERISTICS OF GROUND ROUND FORMULATED WITH THREE FAT SOURCES

This research was performed to determine if changing the source of fat for inclusion in ground beef from the round will cause a change in the number of days that the ground beef has a viable shelf-life as influenced by oxidation. The objectives were to evaluate the color stability and degree of fat oxidation during retail storage of ground beef patties and to determine the influence of fatty acid profile on the extent of ground beef lipid oxidation and shelf-life of ground beef patties over 7 d of refrigerated retail storage. Thirty beef carcasses were chilled for two days and then fabricated. Top or inside round muscles, were removed and closely trimmed. Within each carcass, three sources of fat (kidney and pelvic, subcutaneous, and seam) were sourced to blend with the top round to achieve either 75 or 95% lean ground beef. Patties were placed on Styrofoam® trays and overwrapped with oxygen permeable, polyvinyl chloride and placed in refrigerated retail storage (4°C) where an instrumental measurement of color tractand thiobarbituric acid reactive substances were collected on d 1, 3, 5, and 7 of the study. The additional 447 g of sample was placed in a whirl-pack bag, stored at 4°C, and used for fat and moisture determination, oxymyoglobin concentration, fatty acid analysis, and calculated iodine value. Differences were found between fat sources for both measures of oxidation and discoloration. Therefore, fat source should be considered when formulating products intended for fresh, refrigerated retail sale.