



Nutrient Analysis of Grain-Finished and Grass-Finished Lamb

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Objectives

The 2015 Dietary Guidelines for Americans recommend consumption of nutrient dense foods while emphasizing that intake of total fat, saturated fat, and *trans* fat while emphasizing the benefit of consuming nutrient dense food from all 5 food groups as part of a healthy eating pattern (USDA & USDHH, 2015). With the implementation of the Food Safety and Inspection Service (FSIS) final rule (75 FR 82148) requiring nutritional labeling on many lamb cuts, it is essential to have current, accurate nutrient data that reflects the current U.S. supply. Data currently available in the United States Nutrient Database for Standard Reference (SR) for U.S. Lamb are largely outdated. Lamb data currently available in the SR originated from the work of Ono et al. (1984) and Lin et al. (1988). The objective of this study was to analyze nutrient composition of eleven raw and cooked grain-finished and grass-finished lamb cuts to update nutrient data in the USDA National Nutrient Database for Standard Reference (SR).

Materials and Methods

Retail packages of foreshanks, whole legs, sirloin chops, whole loins, loin chops, whole frenched rib roasts, frenched rib chops, whole rib roasts, rib chops, whole shoulders, shoulder blade chops, shoulder arm chops, stew meat, and ground lamb (IMPS # 210, 234, 1245, 232A, 1232A, 204D, 1204D, 204B, 1204B, 208, 1207B, 1207A, 295, and 296) were collected during all four seasons of the year from 3 U.S. suppliers representing the vast majority of lamb entering the retail market. Packages were transported to the Colorado State University Meat Laboratory

for retail cut dissection (separated into separable lean, external fat, seam fat and refuse), cooking, and nutrient analysis. Single composites of separable lean homogenates were formed from grain-finished and grass-finished lamb cuts and single composites of seam and external fat for analysis of proximates, fatty acids, vitamins, and minerals using AOAC (1995) methodologies at USDA approved laboratories. Least squares means of dissected separable components from lamb cuts were compared.

Results

Results from this study generated greater identification of fatty acid profiles, resulted in lower fat content, provided updated nutrient composition for inclusion into the SR, and established nutrient composition for grass-finished lamb cuts. These data demonstrated that 10 grain-finished and grass-finished lamb cuts qualify for USDA Lean labeling claims, and 4 grain-finished and 2 grass-finished cuts qualify for USDA extra lean labeling claims. Lamb cuts qualify as an, “excellent source of” 6 essential nutrients, and “good source of” 3 essential nutrients.

Conclusion

These findings were submitted to the USDA Nutrient Database for Standard Reference (SR) to update nutrient information available for retail lamb cuts to consumers, the general public, health and nutrition organizations, as well as health professionals. Results from this study have been used to establish raw and cooked nutrient data for grass-finished lamb cuts in the SR. These data indicate that lamb can be included as part of a healthy diet providing excellent and good sources of protein, B-vitamins and several essential minerals.