

Project Summary

Product Quality

Project Title:	Muscle Profiling of the Chuck and Round
Principle Investigator(s):	C. Calkins ¹ , D. Johnson ² , B. Gwartney ³ and J.O. Reagan ³
Institution(s):	¹ University of Nebraska ² University of Florida ³ National Cattlemen's Beef Association
Completion Date:	October 2000

Layman's Summary:

Many muscles from the chuck and round are underutilized, but when prepared correctly and applied in a different manner, they can become more tender and flavorful and thus more valuable. The muscle profiling study, funded by the Beef Checkoff, describes and categorizes 39 muscles from the chuck and round for tenderness, flavor and many other variables.

The study looked at 144 chucks and rounds that represented various quality grades, yield grades and carcass weights, in order to capture as much variation in these muscles as possible. Each chuck and round were fabricated into those individual muscles weighing over ½ pound. The cuts were then subjected to numerous chemical analyses, including composition, water holding capacity and bind capability to name a few. These variables are important for beef processing. The muscles were also measured for their dimensional characteristics, yield and tenderness, both from an objective (shear force) and subjective (taste panel) perspective.

This effort provides information that allows for higher-value marketing opportunities for these muscles. Results from the muscle profiling study build consumer demand for convenient beef meals by identifying a wider variety of chuck and round beef cuts that are easy to prepare. The study matches each muscle to complementary cooking methods, thus eliminating the guesswork that comes in preparing an unfamiliar cut. Chuck and round muscles can be cooked with less effort to produce a tender, flavorful product for the dinner table. The results from this study have been compiled into a muscle profiling manual and interactive CD-ROM for use by all segments of the beef industry.