

POSTMORTEM AGING

Tenderness is one of the top drivers of beef customer satisfaction; it influences the likelihood that consumers will purchase beef and how much they are willing to pay for it. Postmortem aging is a critical management practice that can improve the consistency of beef tenderness. Postmortem aging is defined as the storing of fresh beef at refrigerated temperatures to allow the natural enzymatic and biochemical processes that result in improved tenderness.

The case could be made that postmortem aging is the single most important element of a tenderness management system. However, research suggests that the postmortem aging interval required to produce tender beef is influenced by a number of different factors including muscle within a carcass and USDA quality grade.

Wet (Traditional) Aging

The success of single-muscle fabrication through the checkoff-funded Muscle Profiling research program created the need to establish aging guidelines for individual muscles of different USDA Quality Grades. This need was met through a checkoff-funded research project that characterized traditional wet postmortem aging of fresh (never frozen) individual beef muscle from two different quality grades (Upper 2/3 USDA Choice and USDA Select).

Results revealed that tenderness of cooked beef is affected by individual muscle, USDA Quality Grade and length of postmortem aging period. Careful and individualized aging management can result in identification of appropriate uses for specific muscles. Though some muscle/quality grade combinations only require the standard 14-day aging period, some combinations require more time to achieve tenderness acceptability.

Individual aging recommendations for 17 different Upper 2/3 Choice and Select muscles are provided through the checkoff-funded Industry Guide for Beef Aging. This executive summary is posted online at www.beefresearch.org.

Dry Aging

Dry aging is a process whereby beef carcasses, primals, and/or subprimals are stored, without protective packaging, at refrigerated temperatures for one to five weeks. This allows natural enzymatic and biochemical processes to occur, resulting in improved tenderness and the development of concentrated beef flavor.

Wet aging takes place within vacuum packaging and represents the primary method of beef aging today. However, dry aging has recently regained some interest as foodservice and retail operators look for ways to differentiate their products over their competitors. Dry aging requires refrigerated conditions where humidity and airflow are carefully controlled, as well as a sufficient number of days to achieve the desired palatability outcome for the end user of the product.

Detailed information on dry aging is included in the checkoff-funded publication titled Dry-Aging of Beef, which is posted online at www.beefresearch.org.