Meat Tenderness Claim Standard Initiative – General Questions with Consolidated Responses

1. How do we define tenderness? Are we really trying to define palatability? What is the goal?

   Since palatability is affected by cooking method, degree of doneness, fat level, etc. there was a unanimous decision that we should focus on defining and assessing tenderness and **not** focus on palatability. It was further discussed that tenderness is easier to define and measure versus palatability. With tenderness, a numerical value can be applied or a threshold can be determined and set more readily. The goal is tenderness categories to allow incentives to drive the industry.

2. Should the tenderness threshold be the same for all species? If not, how do we segregate?

   We need to understand the expectations of the consumer as it relates to **each** species and how information regarding tenderness is understood by the consumer. **Current consumer data presented to the CIS subcommittee indicates that consumers have different expectations of tenderness for each species.**

   A numeric value may be difficult to determine for all species and all cuts. However, a numeric threshold will be necessary for meat to be claimed or at least verified as tender.

3. Will tenderness evaluation be objective (every carcass with the claim must be evaluated) or will it be a total quality management system (only a portion of the carcasses will be evaluated)?

   A mixed discussion was held regarding whether or not tenderness evaluation should be objective (each carcass) or a TQMS. Ideally, each carcass should be evaluated since variation in value is based on carcass value, but is this currently viable for the meat industry?

   Producers/packers/further processors may need to have the flexibility to evaluate **either** every carcass **or** use a TQMS to achieve their tenderness goals and fit into their production and cost schemes. All levels of the marketing chain are going to need to be able to use the meat tenderness claim.

4. Will a tenderness claim apply to the entire carcass or only the middle meats?

   Keep it simple; similar to the categories of marbling degree. End meats are cooked and or processed differently. It was also mentioned that if carcasses are categorized based on the tenderness of the longissimus muscle other muscles in the carcass will be more tender than those same muscles in other carcasses but these correlations are weak. If the tenderness claim is applied at the carcass, it would need to be based on a one muscle evaluation because using multiple muscles would make adoption of the program difficult.

   Further analysis of data could provide acceptable criteria to develop an adjustment factor that would be able to characterize the tenderness of other muscles based off of measurements at

the longissimus dorsi. There is a desire by the industry to develop an adjustment factor but more definitive guidelines are needed before more work is done.

5. What is the best method to evaluate tenderness? Can methods other than the "best" be used?

Verification Methodologies

USDA would prefer that the verification methods have standards set by another governing body such as the American Meat Science Association. Verification activities associated with the claim needed to be open to new technologies as long as they can be validated. After looking at the direct measures of tenderness that are currently used, **the MTV sub-committee recommended that the verification methods be Warner-Bratzler shear force, slice shear force and trained sensory panel recognizing the industry's need for flexibility in method selection.**

Predictive Technology

The technology that is ultimately used needs to be rapid, reproducible, easy to operate, an accepted standard technology, can be related back to shear force and verified by a third party lab. The current state of the predictive technologies can identify tender carcass but not tough carcasses. **The MTV sub-committee concluded that tenderness prediction of a carcass should be done at the longissimus dorsi due to the practicality in an industrial setting.**

6. Is an "improvement" in tenderness relevant to this standard?

Testing for meat tenderness claims should be done so that the final product meets the tenderness criteria so processors can "improve" the product to meet the criteria but it should be noted that the "improvement" is not the criteria. Furthermore, it was discussed that the standard must be consumer based – not relative to an "improvement." Improvement protocols or "tenderness HACCP" programs should be left to each individual company or breed groups.

There was discussion that if all processes were able to be used in the claim then there would be no real differentiation/marketing benefit in the market place. During a discussion of the processes, it was recognized that even claims involving intact beef product would need to allow TenderStretch, electrical stimulation and aging since these are common industry practices. It was also brought up that a majority of the beef products used in foodservice are blade tenderized.

There was discussion that maybe the final claim would need to be two fold, one that addresses intact muscle product that is tender when tested and one that addresses product that was made tender by other processes. **It was suggested that the initial claim should focus on intact muscle that is tender.**