Instrument Augmented Lamb Grading

Status of the Industry

Presented by Dr. Willy Horne
Rationale for Instrument Grading

- Reduce variation
  - Within plants
  - Between plants, areas and regions
- Increase accuracy, precision and resolution of grade factor assessment
- Increase efficiency of USDA graders
  - Allows adequate time to perform other duties of their jobs
    - Plant Monitoring
    - Training
    - Paperwork
Fed Beef Cattle

- Roughly 45% are being graded using Instrument Augmented Grading
- Expect this to increase to around 70% by the end of 2017
Challenges

- **Stationary Instrument**
  - In Beef the Instrument is placed directly on the ribeye

- **Environmental Factors**
  - Lighting Source
    - Xenon vs Halogen vs LED

- **Does not look inside of the carcass**
  - Cannot evaluate flank streaking
Where are we in the approval process

- Worked with manufacturer to refine regression equations
- Visited a processing facility twice within 2016
  - Suggested a couple of changes to their SOP’s to ensure carcass ID is maintained
    - These changes were placed into effect on January 18, 2017
  - Collected data to verify accuracy of instrument
- Will be going out to the plant in the first quarter 2017
  - Verify, with the manufacturer, the accuracy and repeatability of the instrument
Where are we in the approval process (cont.)

- The plant is running the instrument unofficially
  - Collecting both yield and quality grade information
  - Comparing the information that the instrument is giving to that of the grader
    - Using the information to help refine the instrument further
- Based on the progress, we are targeting the first half of 2017 to get an approval.
ASTM International

- Tenderness Standard Specification
  - Tenderness Marketing Claims Associated with Meat Cuts Derived from Lambs
    - F-2925 draft document
    - Splitting the lamb and beef species draft document
New draft includes

- Minimum Tenderness Threshold – 3.4 kg Warner Bratzler Shear Force
- Tender Program
  - Certified Tender
    - <3.4 kg WBSF
  - Certified Very Tender
    - <2.4 kg WBSF
  - Certified Extremely Tender
    - <1.4 kg WBSF
- If carcass Longissimus Dorsi is measured and meets minimum Tenderness Threshold
  - Associated Rack will qualify as certified
  - Associated Loin will qualify as certified
ASTM Upcoming Meeting

- April 13, 2017 in Aurora, CO
- USDA will be submitting draft prior to this meeting
Challenges to the Standard

- Garnering support of the ASTM process
  - Looking for
    - Academia personnel who are unbiased to give an objective evaluation
    - Lamb industry members who are interested in a tender program
    - Meat industry companies and individuals who would be using a tender program
Conclusion

- USDA is working on getting the approval for the 1\textsuperscript{st} instrument augmented grading program in lamb
  - Expect that once that approval is earned, more plants will be entering the approval process
- We are working on a draft tenderness spec for lamb
  - Certified Tender, Very Tender, and Extremely Tender
- Exciting Times as we move forward with Technology!