August 18, 2017

Beef Carcass Revisions
Standardization Branch
Quality Assessment Division
Livestock, Poultry, and Seed Program
Agricultural Marketing Service
U.S. Department of Agriculture
1400 Independence Avenue SW
Room 3932-S, STOP 0258
Washington, D.C. 20250-0258

Re: Docket No. AMS-LPS-16-0060: United States Standards for Grades of Carcass Beef; 82 *Fed. Reg.* 27782 (June 19, 2017).

To Whom It May Concern:

The North American Meat Institute (NAMI or Meat Institute) is the leading voice for the meat and poultry industry. The Meat Institute has a rich, century-long history and provides essential member services including legislative, regulatory, scientific, international, and public affairs representation. Together, the Meat Institute's members produce the vast majority of U.S. beef, pork, lamb, and poultry, in addition to the equipment, ingredients, and services needed to produce the safest and highest quality products. The meat and poultry industry is committed to supporting and following policies and regulations rooted in sound science and proven to improve the quality of its products.

The Meat Institute appreciates the Agricultural Marketing Service's (AMS or the agency) outreach to the industry to solicit input regarding changes to the beef carcass grading standards to allow for dentition and documentation of age to be used to classify beef carcass maturity and eligibility for quality grade classification.

The proposed changes are aligned with current scientific thinking.

The reason beef is graded for quality grading is to separate carcasses into homogeneous groups based on palatability traits. Carcasses with similar quality characteristics, including lean color, skeletal ossification or skeletal maturity, and marbling score, are combined and then carcasses are placed into ranked groups and

O: 202.587.4200
F: 202.587.4300
www.meatinstitute.org
1150 Connecticut Avenue, NW
12th Floor
Washington, DC 20036

classified as USDA Prime, Choice, Select, Standard, Commercial, Utility, Cutter, or Canner. Skeletal ossification or maturity classification (A, B, C, D, or E), is the method AMS has used to determine age of an animal at slaughter. Carcasses classified as A-maturity are supposed to be 9-30 months of age (MOA). However, approximately 7.2% of carcasses from cattle slaughtered at 30 MOA or younger possess a skeletal maturity of B or older and are therefore ineligible to be considered A-maturity and receive a discount.[1]

Recent peer-reviewed science evaluated the effect of USDA skeletal maturity classification applied to carcasses in two groups, over 30 MOA and under 30 MOA (classified using dentition) on beef palatability attributes. Results showed that USDA skeletal maturity classification (A versus B, C, or D maturity) had no effect ($P > 0.05$) on tenderness, juiciness, or flavor of longissimus dorsi (LD) steaks from carcasses slaughtered less than or over 30 MOA.[2] However, LD steaks from cattle slaughtered at over 30 MOA, were associated with greater ($P < 0.05$) incidence of grassy and livery flavors.[3] In addition, dentition interacted with marbling score to affect LD steak tenderness.[4] Among LD steaks with Slight marbling scores, those originating from carcasses slaughtered at less than 30 MOA were more tender ($P < 0.05$) than LD steaks from carcasses slaughtered at 30 MOA or older.[5] Dentition did not affect ($P > 0.05$) LD steak tenderness within the Small and Modest-Moderate marbling score categories.[6] Similarly, no difference ($P > 0.05$) was found in LD steak tenderness, juiciness and flavor between carcasses slaughtered at 30 MOA or younger with different skeletal ossification classifications (A, B, or C).[7] This scientific evidence demonstrates that dentition and documentation of age is an accurate tool to help predict acceptability of eating experience.

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[1] Moore, M. C., Gray, G. D., Hale, D. S., Kerth, C. R., Griffin, D. B., Savell, J. W., ... & Igo, J. L. (2012). National Beef Quality Audit–2011: In-plant survey of targeted carcass characteristics related to quality, quantity, value, and marketing of fed steers and heifers. Journal of animal science, 90(13), 5143-5151.

[2] Acheson, R. J., Woerner, D. R., & Tatum, J. D. (2014). Effects of USDA carcass maturity on sensory attributes of beef produced by grain-finished steers and heifers classified as less than 30 months old using dentition. Journal of animal science, 92(4), 1792-1799.
Semler, M. L., Woerner, D. R., Belk, K. E., Enns, K. J., & Tatum, J. D. (2016). Effects of United States Department of Agriculture carcass maturity on sensory attributes of steaks produced by cattle representing two dental age classes. Journal of animal science, 94(5), 2207-2217.

[3] Semler, M. L., Woerner, D. R., Belk, K. E., Enns, K. J., & Tatum, J. D. (2016). Effects of United States Department of Agriculture carcass maturity on sensory attributes of steaks produced by cattle representing two dental age classes. Journal of animal science, 94(5), 2207-2217.

[4] *Id.*

[5] *Id.*

[6] *Id.*

[7] Acheson, R. J., Woerner, D. R., & Tatum, J. D. (2014). Effects of USDA carcass maturity on sensory attributes of beef produced by grain-finished steers and heifers classified as less than 30 months old using dentition. Journal of animal science, 92(4), 1792-1799.

Utilizing existing regulatory programs to evaluate dentition and documentation of age is a sensible use of resources and would not be an additional burden on establishments.

The Food Safety and Inspection Service (FSIS) has in place routine dentition verification activities in federally inspected beef establishments, including reviewing establishment records, observing employees performing dentition examinations, and periodically performing hands-on dentition checks.[8] After dentition is completed, carcasses are identified and segregated based on meeting an over or under 30 MOA requirement. This method of age determination has been audited by numerous trading partners and meets BSE control requirements.[9] Additionally, the two methods already utilized by AMS USDA Process Verified Program or the USDA Quality System Assessment is a sensible use of current resources.

The Meat Institute supports the changes to the beef carcass grading standards and appreciates the opportunity to submit these comments. If you have questions about these comments or would like to discuss them, please contact me at (202)587-4249 or kmccullough@meatinstitute.org. Thank you.

Respectfully submitted,

KatieRose McCullough

KatieRose McCullough, Ph.D.

cc: Barry Carpenter
Mark Dopp
Norm Robertson
Tiffany Lee, DVM

[8] FSIS Directive 6100.4, Verification Instruction Related to Specified Risk Materials
[9] The FSIS dentition process can be found here: http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/production-and-inspection/bovine-spongiform-encephalopathy-bse/bse-resources