Are there quality differences between “naturally raised” beef and conventional beef?

A new original research article in Applied Animal Science compares beef that is marketed as “naturally raised” and commodity beef.

Philadelphia, PA, March 30, 2020—Increased public interest in livestock production has led to the introduction of “naturally raised beef” and “organic beef” in the marketplace. Consumers have many choices when selecting beef at the grocery store, and often, they are willing to pay a premium for beef that is marketed and labelled as “naturally produced.” These “naturally produced” beef products are recognized as a healthier option. Dr. Jason K. Apple, an author of the article, points out that “there are well-defined production standards for USDA certification of organic beef, but there are no official standards for ‘naturally raised’ marketing claims.” Apple and researchers at the University of Arkansas (UA) and the UA System Division of Agriculture compared beef labelled as “naturally raised” and conventional beef to see if there were differences in meat quality. They evaluated steaks from five branded beef programs making marketing claims of “no dietary antibiotic or ionophore inclusion” and “no growth promotants” and steaks from two major beef commodity packing companies.

High-quality beef is the result of a combination of many factors. The article compares numerous aspects of the two types of beef. “The growth-promoting technologies and feeding practices that differentiate ‘naturally raised’ from conventional beef produced varied effects on fresh beef color, fatty acid composition, and cooked beef palatability,” Apple said. “Consumer sensory ratings, fresh meat color, fatty acid profiles, pH, antibiotic residues, cooking loss, cooked beef palatability, and shear force tenderness were compared,” added David K. Beede, editor-in-chief of Applied Animal Science.

The two types of beef showed few differences in the characteristics studied. When fresh beef was compared, “naturally raised” beef and conventional beef were similar in pH and moisture and intramuscular fat content, although conventional steaks were darker in color. Conventional steaks also had greater cooking losses, but the two types of beef were similar in fatty acid composition; shear force tenderness; and consumer sensory ratings for flavor, tenderness, texture, and overall acceptability. Other than these few, small differences, “naturally raised” beef and commodity beef were strikingly similar in quality.

The article appears in the April issue of Applied Animal Science.
NOTES FOR EDITORS

Full text of the article is available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext. 143 or arpas@assochq.org to obtain copies. To schedule an interview with the authors, please contact Dr. Jason K. Apple at Jason.Apple@tamuk.edu.

ABOUT APPLIED ANIMAL SCIENCE
Applied Animal Science (AAS) is a peer-reviewed scientific journal and the official publication of the American Registry of Professional Animal Scientists (ARPAS). In continuous publication since 1985, AAS is a leading outlet for animal science research. The journal welcomes novel manuscripts on applied technology, reviews on the use or application of research-based information on animal agriculture, commentaries on contemporary issues, short communications, and technical notes. Topics that will be considered for publication include (but are not limited to) feed science, farm animal management and production, dairy science, meat science, animal nutrition, reproduction, animal physiology and behavior, disease control and prevention, microbiology, agricultural economics, and environmental issues related to agriculture. Themed special issues also will be considered for publication. www.appliedanimalscience.org

ABOUT THE AMERICAN REGISTRY OF PROFESSIONAL ANIMAL SCIENTISTS (ARPAS)
The American Registry of Professional Animal Scientists (ARPAS) is the organization that provides certification of animal scientists through examination, continuing education, and commitment to a code of ethics. Continual improvement of individual members is catalyzed through publications (including the AAS journal) and by providing information on educational opportunities. ARPAS is affiliated with five professional societies: American Dairy Science Association, American Meat Science Association, American Society of Animal Science, Equine Science Society, and Poultry Science Association. www.arpas.org

ABOUT ELSEVIER
Elsevier (www.elsevier.com) is a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals, empowering them to make better decisions, deliver better care, and sometimes make groundbreaking discoveries that advance the boundaries of knowledge and human progress. Elsevier provides web-based, digital solutions—among them ScienceDirect (www.sciencedirect.com), Scopus (www.scopus.com), Elsevier Research Intelligence (www.elsevier.com/research-intelligence), and ClinicalKey (www.clinicalkey.com)—and publishes over 2,500 journals, including The Lancet (www.thelancet.com) and Cell (www.cell.com), and more than 35,000 book titles, including a number of iconic reference works. Elsevier is part of RELX Group (www.relx.com), a world-leading provider of information and analytics for professional and business customers across industries. www.elsevier.com

ABOUT FASS INC.
Since 1998, FASS has provided shared management services to not-for-profit scientific organizations. With combined membership rosters of more than 10,000 professionals in animal agriculture and other sciences, FASS offers clients services in accounting, membership management, convention and meeting planning, information technology, and scientific publication support. The FASS publications department provides journal management, peer-review support, copyediting, and composition for this journal; the staff includes five BELS-certified (www.bels.org) technical editors and experienced composition staff. www.fass.org