



Proving Beef's Nutritional Value

by **Brooke Byrd**

Science is key to keeping beef on the consumer's plate.

Including 4 oz. of lean beef in the diet stimulates muscle protein synthesis in young and old.

DENVER, CO (Feb. 2, 2006) — At the Nutrition Research Discovery Symposium Thursday, Feb. 2, five scientists presented findings showing beef in a new nutritional light. The meeting served as a planning meeting to develop research priorities for the future.

Bill Layden, LaydenWorks LLC, talked about how investing in beef nutrition science is investing for the future. However, he said, "It's not just science. You've got to have scientific excellence." More and more, the quality of the science is going under the microscope, with different scoring systems based on how much evidence is available. For all the different types of scientific studies, there are different impacts.

Layden emphasized that science is key to keeping beef on the consumer's plate. "Nutrition science is the foundation to protect, promote and manage," he said. "Let the science speak for itself."

In order to face up to challenges that will be facing the beef industry nutritionally, Layden said scientific studies are necessary to back up beef's nutrition claims. Even more important, he noted that for scientific evidence to be considered when developing the 2010 Dietary Guidelines, it must be in the public

domain; it must be published by about 2008. Finally, he reminded those present that "science is a discovery process — it's not an end point."

Results of 2005 priorities

Shalene McNeill, the National Cattlemen's Beef Association (NCBA) director of nutrition research, discussed the nutrition research priorities set in 2005, for which studies have been and are currently being conducted:

- 1) Beef's role in weight management, optimizing body composition and metabolism
- 2) Beef's contribution as a naturally nutrient-rich food to improve overall diet quality
- 3) Beef lipids in perspective
- 4) Innovation

Five scientists then presented their research.

Building muscles. Douglas Paddon-Jones, assistant professor of surgery and director of Exercise Metabolism Laboratory, University of Texas Medical Branch and Shriners Hospital for Children, discussed one completed and one ongoing study about beef's role in building muscle. His results indicated that 4 ounces (oz.) of lean beef stimulates muscle protein

***K-State University
evaluated the
health benefits of
consuming beef
from cattle fed flax.***

synthesis in both young and elderly individuals, with metabolic and functional benefits.

Weight management. Donald Layman, Department of Food Science & Human Nutrition, University of Illinois at Urbana-Champaign, discussed the role of beef in weight management and body composition.

With a purpose of establishing the role of dietary protein in life-long health and establishing a positive understanding about protein's role in a healthy diet, his study raised questions about how protein needs apply to age (young vs. older adults), as well as effects on carbohydrate metabolism.

Evaluating intake. Lynn Moore, associate professor of medicine at Boston University School of Medicine, gave a talk on developing data sets for evaluating beef intake when researching nutrition.

Using food diaries and nutrient analysis programs, Moore found that except for teenage girls, children mostly ate high-fat forms of beef. As participants aged, the

amount of lean beef consumed increased.

Feeding flax. Denis Medeiros, professor and head of the Department of Nutrition, Kansas State University, studied the health benefits resulting from feeding flax to beef cattle.

The goal of the research was to see if feeding flax resulted in more omega-3 fatty acids, which can be beneficial to human health, in beef products. After feeding flax-fed beef to rats, Medeiros saw a rise in omega-3 fatty acids and lower cholesterol levels.

Designer beef. James Reecy, Iowa State University, presented a study about developing tools to allow cattle producers to select for healthier beef. He found that certain fatty acid compositions are more heritable than others and differed between breeds. The study indicated fatty acid desaturation is more heritable than fatty acid elongation.

In the future, he suggested, DNA markers will help producers select for a healthier final product.



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