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Live Animal and Meat Quality Evaluation Center

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Introduction

A proposal has been developed to establish a live animal and meat quality evaluation center at Iowa State University to develop and transfer research information to improve quality, retail yield, uniformity and safety of beef and pork products for the consumer.

The center is proposed for location in Iowa because value-based marketing and branded products are a natural where all industry segments can be "housed" in a localized geographic area. Iowa's unique natural grassland and cropland resources, abundant feed grain supplies, and its rich history in agriculture and livestock production make it seem obvious that Iowa could become the premier state in production, processing, and marketing of healthful, high quality, and world-renowned beef and pork products. Most pork and beef produced in Iowa leaves the state with a high percent entering international markets. We must be able to produce the kind of products marketed outside of Iowa demand. Because these markets will demand different qualities of product, we must be able to measure those qualities for each of those markets. It is simply a matter of capitalizing on the resources at hand and doing what we do best. In doing so, Iowa's resources can be replenished and enhanced. Iowans can prosper from the jobs created and revenue generated. The environment can become the model for the nation, and a quality of life can be maintained and improved for all who participate and are engaged in the various steps of the production, processing; and marketing chain. While other meat producing states will benefit from center activities, Iowa will realize the greatest benefit.

Discussion

Areas included in the research, development, and technology transfer of live animal and meat quality evaluation center include:

- Validation and testing of instrument grading systems to objectively evaluate quality and retail product yield of carcass beef.
- Centralized processing of real-time ultrasound images to determine quality and retail product yield on live cattle and swine for the development of carcass Expected Progeny Differences (EPDs).
- Use of electronic identification and data processing from conception to consumer as a communication

method to evaluate the merits of retail beef and pork products.

- Validation of food safety and preservation techniques.

The broad goal of the center will be to assist in the development and testing of objective systems to evaluate beef and pork products for the industry and implement these systems into a value-based marketing system based upon objective measures. Currently, prototypes have been developed, both at universities and privately, in a number of technologies related to retail product yield, quality, and safety. A major step involves validation of a prototype and then, for example, adopting the technology to a chain speed packing house environment. Once a technology is developed, testing and validation are very costly processes on an individual system basis. It could be cost effective if technologies could be tested and evaluated concurrently at a central location.

No center offers such services in the United States today. It is visualized that this center would be recognized and respected as a source of new knowledge and technology transfer to all sectors of the beef and swine industries involved in the production, processing, and merchandising of beef and pork products. Value-based marketing of branded beef products is in the future of the beef and pork industries. Currently, no objective system evaluates beef and pork products or relates their relative value to all segments of the industry.

Further, the center is proposed for Iowa because Iowa State University is the current leader in the development of image analysis and processing of ultrasound data to predict quality and retail yield of live beef cattle and swine and beef and pork carcasses. Centralized processing of this information can be accomplished at Iowa State University and has several advantages:

- A licensing agreement has been developed with Corometrics to commercialize percent intramuscular fat software.
- Currently Beef Improvement Federation (BIF) real-time ultrasound training and certification on live cattle is conducted at ISU.
- Images from all over the world to determine percent intramuscular fat are being processed in our image analysis laboratory.
- Quality control would be improved.
- Computerizing of carcass EPDs is currently conducted here, and the first EPDs based on ultrasound measurements will be conducted January 1996.
- Acquisition of data for research, interpretation, service, and communication to the industry.

Implications

Producers, USDA, the packing industry, and ultimately the consumer can derive tremendous benefits from such a center that is technology transfer-driven to implement these new concepts. The beef cattle industry is currently a segmented one. If value-based marketing and consistent branded beef products are in the future, links of communication must be formed among segments of the industry to produce a consistent, uniform, high-quality product.