Youth are Raising Industry—Acceptable Market Animals

The Situation
The 4-H Market Animal Program has always provided youth the opportunity to raise market animals that end up in the food chain. Through this program youth have been able to develop and enhance life skills of goal setting, responsibility, record keeping, and cooperation as well as build self-esteem. The popularity of animal projects has spread to many non-traditional families with limited livestock-raising experience. Program participants from non-traditional families have not been knowledgeable of market animal industry standards and the quality of the animals exhibited has been poor. In 1996 the percent of markets steers exhibited at the Eastern Idaho State Fair making the USDA Choice quality grade was less than 30 percent, well below industry average. The market hogs percent fat free lean was less than 50 percent, also below industry average.

Our Response
University of Idaho extension educators from Bear Lake, Bingham, Caribou and Oneida counties implemented an educational program using ultrasound technology to determine carcass quality of market animals that were exhibited at the Eastern Idaho State Fair. Educational workshops were developed and then taught to youth and adults in eastern Idaho. At the workshops educators taught current USDA Meat Animal Carcass Specifications and industry standards.

Animals were scanned at workshops using ultrasound to identify their carcass measurements. Participants were then trained as to what the measurements meant and how the animals fit USDA specifications. Workshops were also held on proper animal selection, care and nutrition.

Ultrasound technology was then implemented as an evaluation tool at the Eastern Idaho State Fair. Each youth received a picture of the ribeye/loin-eye area and fat thickness of their animal. Youth were then able to determine how their animals compared to the standards. Adult volunteers implemented a carcass contest using ultrasound data to determine the top carcass animals. Youth were rewarded for raising top animals that fit within industry-acceptable standards.

Program Outcomes
Ultrasound data collection started on a limited basis at the Eastern Idaho State Fair in 1996 but has been collected on every market steer, hog and lamb since 1999. From 1999 to 2005, 272 hogs, 174 steers and 307 lambs were scanned.

The data collected on the market has program has shown an increase in percent lean from just under 50 percent in 1996 to 54.88 percent in 2005. Percent lean is based on the muscle-to-fat ratio. This increase shows that swine have become more muscular with less fat. The loin-eye area was 6.58 inches² in 1999 and has increased to 7.72 inches² in 2005. The back fat has decreased from 0.84 inches in 1999 to 0.61 inches in 2005.
Data collected at the Eastern Idaho State Fair Jr. Beef Show indicates that the percentage of steers grading USDA Choice has improved from 28 percent in 1996 to 67 percent in 2005. Quality grade is based upon the amount of marbling or flecks of fat in the muscle. The more marbling, the higher the quality grade and the better the eating quality of the meat.

The market lamb data shows an increase in ribeye area while maintaining an industry acceptable fat thickness. An increase in ribeye means a bigger “lamb chop.” In 1999 the ribeye area was 2.71 inches² and fat thickness was 0.17 inches. In 2005 the lamb ribeye area was 3.11 inches² with an acceptable fat thickness at 0.20 inches.

Consumers are now using ultrasound data to help them identify animals with more muscle and less fat. In 2005, 100 percent of the hogs and 55 percent of the steers were purchased for personal use. While in 1996, 60 percent of the hogs and 22 percent of the steers were purchased for personal use. 4-H youth and volunteer leaders utilize the information to help them in selection and management practices.

The Future
The use of technology is everywhere and valuable in society. Ultrasound provides a state-of-the-art approach to evaluating meat animals. Today farmers and ranchers that produce 4-H animals are using ultrasound information for the selection of their seed stock animals. The Extension educators have additional similar data that will be used to compile journal articles that will further help educators to continue to work with youth, adults and consumers to educate them on the importance of high-quality meat animals.

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