

Educators Use Ultrasound Technology to Teach 4-H About Raising High Quality Market Animals

The Situation

The 4-H Market Animal Program provides youth the opportunity to raise market animals. These animals ultimately 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 building self-esteem. In 1994, major packers developed concerns about buying 4-H/FFA animals because of food safety and quality issues. As a result, meat packers did not want to take the so-called risk of buying 4-H animals. This affected the image of all 4-H youth and the future of valuable youth education programs.

Our Response

University of Idaho extension educators from Bear Lake, Bingham, Caribou and Oneida counties in cooperation with the Idaho Beef Council, put together a program using ultrasound technology to determine carcass quality of 4-H market animals. Once the educators became trained on the technology, they developed educational workshops designed to reach youth and adults in Southeastern Idaho. At the workshops, educators taught current USDA meat animal carcass specifications.

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

Ultrasound technology was then implemented as an evaluation tool at county fairs. Each youth received a picture of the rib/loin eye area and fat thickness of his or her animal. Youth were then able to determine how their animals measured up to industry standards.

Achievements

Swine ultrasound carcass data has been collected at the Caribou County Fair since 1994. Beef ultrasound data has been collected at The Eastern Idaho State Fair since 1995. Educational workshops have been held in fourteen Idaho counties, two in Wyoming, and four in Utah. Other presentations have been held in Montana, Oregon and Colorado. Two educators presented a seminar at the Western Regional 4-H Leaders' Forum in New Mexico, a National Judges Training in Moscow, and the National Association of Extension 4-H Agents in Pittsburgh.

Packers have continued to buy 4-H animals scanned at fairs. They have realized, through the use of ultrasound, 4-H members are more knowledgeable about the animals they produce and 4-H'ers know what it takes to produce a quality animal. Buyers come to the sale looking for high quality animals as determined by ultrasound. They have noticed an improvement in the quality of meat from these animals. 4-H youth and volunteer leaders utilize the information to help them in selection and management practices.

The data collected from the Caribou County swine program have shown percent lean increase from 47 percent in 1994 to 56 percent in 1999. Percent lean is based on the muscle to fat ratio. This increase shows that swine have become more muscular with less fat.

Data collected at the Eastern Idaho State Fair beef program indicate that the percent of steers grading USDA Choice has gone from 23 percent in 1995 to 44 percent in 1999. At the same time, these cattle had a change in yield grade of 2.7 in 1995 to 2.1 in 1999.

Quality grade is based upon the amount of marbling or flecks of fat in the muscle. The more marbling found in the muscle, the better the eating quality of the meat. Yield grade is figured on a muscle to fat ratio. Less external fat and more muscle results in a lower yield grade number. Increasing quality grade, while lowering yield grade, is significant because of the industry belief that to have more marbling, cattle need to have increased external fat.

The Future

The use of new technology is everywhere and valuable in society. Ultrasound provides a state-of-the-art approach to evaluating meat animals. Volunteer leaders continue to request the use of ultrasound to teach youth and their parents. Extension educators will continue to educate 4-H members, packers and consumers of the importance of high quality meat animals.

For More Information

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