

impact

University of Idaho Extension programs that are making a difference in Idaho.

Ultrasound data collection at fairs has a positive impact on meat quality

AT A GLANCE

For 25 years ultrasound data has been collected as part of an educational program to help youth raising animals increase industry acceptability.

The Situation

4-H animal projects provide youth with an opportunity to raise market animals that end up in the food chain. Through the 4-H program, youth develop and enhance life skills such as goal setting, responsibility, record keeping and cooperation as well as build self-esteem. The popularity of animal projects has grown and has spread to many non-agriculturally based families. Because of the growth of the project, it became apparent all participants lacked knowledge on project industry acceptability. This was evidenced after the 1996 Eastern Idaho State Fair when the steers were harvested, a USDA beef grader predicted that 23% of the market steers exhibited at that fair would grade choice or better. Up to this point in time, data was only available on the steers that went to the packing plant located over 150 miles away. Youth were not able to travel to the plant to view the carcasses from their animals. There was no carcass data available on the market hogs and market lambs. The lack of available carcass information meant a lack of educational opportunities for 4-H exhibitors.

Our Response

The input of stakeholders in market animal programs in southeast Idaho led Extension educators to develop



An ultrasound technician shows youth the beef ribeye image on the screen in real-time. Photo by UI Extension, Custer County.

an ultrasound education program for market animals. In 1999 carcass data collection was introduced for market beef, market lambs and market hogs at the Eastern Idaho State Fair and is still in place today. This data helped youth learn the meat quality of the animals they were raising for the fair.

Ultrasound technology used at fairs provides an opportunity to collect carcass data on live animals. Not only is this data utilized to rank the market livestock for a carcass contest, but it is also used to help educate the youth producers on what is “good” and what can be improved for consumer acceptability of meat quality.

Program Outcomes

From 1999-2023, 25 years of obtaining ultrasound data and providing educational opportunities for youth market livestock exhibitors, the quality of the market livestock including industry acceptability has increased. Youth and families have been able to use the information learned to apply it to their market projects, including selecting improved genetics, providing quality nutrition and general management techniques to ensure they bring a consumer acceptable market animal to the fair. In 2020 the Eastern Idaho State Fair added the top placing carcass animal (champion carcass) to be sold following the judge placed quality champions. This allowed for buyers to recognize and reward these youth for raising an industry desirable animal.

From 1999-2023, 1,388 market hogs have been scanned. In 1999 the average weight of the hogs was 270 pounds, in 2023 the weight was 273 pounds. The backfat was .84 inches in 1999 and 2023 was .84, with the average over the 25 years is .77 inches. The loin eye area (LEA) was 6.58 square inches in 1999 and was 8.35 inches in 2023 for a 27% increase. This is significant since the average market weight on those hogs has only increased 3 pounds in the same period. The average percent Fat Free Lean (%FFL) was 51.71 in 1999 and was 55.29 in 2023. The percent increase in LEA and %FFL means more quality meat products available to the consumer.

From 1999-2023, 1,622 market lambs were scanned. In 1999 the average weight was 124 pounds and in

2023 it was 131 pounds. The backfat was .17 inches in 1999 and was .20 inches in 2023. The ribeye area (REA) was 2.71 square inches in 1999 and 3.37 square inches for a 24% increase. Retail Product went from 57.3% in 1999 to 60.93%. The increase REA and Retail Product means more quality product is available to the consumer.

From 1999-2023, 572 market steers were scanned. The average weight in 1999 was 1,230 and in 2023 was 1,301 for a 5% increase. During the same time, the ribeye area (REA) increased from 12.99 square inches to 14.72 square inches for a 13% increase. This means more product for the consumer. The % intramuscular fat (IMF), marbling in 1999 was 4.03% and 5.15% in 2023 for a 28% increase. The increase in IMF or marbling has a direct impact on beef cattle quality grade. In 1996 the percentage of steers grading Choice was 23%. In 2023 that percentage was 60%. The increase in quality grade has a positive impact on the price of beef because a higher quality grade means the beef is worth more money.

The Future (Optional Subhead)

Ultrasound carcass data has become an important educational tool for youth. This information will continue to be collected at the Eastern Idaho State Fair. Educational opportunities will be provided to help participants learn how to produce an industry acceptable, consumer preferred product.

FOR MORE INFORMATION

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