NDSU Extension Service Live Lamb Carcass Contest Report

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Using ultrasound measurements for live carcass evaluation can be used as an effective tool for selection of carcass merit improvement. It has been used very little on sheep; however, the technology has been available to North Dakota youth participating in the sheep project.

Introduction

The use of ultrasound has been around for research purposes but not used as often in performance measurements for live evaluation until the last decade. In sheep it is used even less, but offers the same amount of accuracy as other species. Combining carcass traits with economic traits of importance such as growth, maternal traits, pedigree, and reproduction can make flock selection decisions for genetic improvement easier. The points evaluated for decision making purposes are ribeye area (REA), fat thickness (FT), and body wall thickness (BWT). These carcass traits are highly heritable and can be useful in determining extremes.

REA is measured in square inches between the 12-13th rib. It is positively correlated with carcass cutability, giving a good indicator of total muscling. REA reflects the differences in the proportion of muscle-to-bone within the carcass, and usually measures between 1.5 - 4.0 square inches. Fat thickness or backfat, is measured over the center of the ribeye at the 12 - 13th rib. The fat usually ranges from 0.1 - 0.5 inches. Fat thickness is the most important measurement that helps determine carcass cutability. As fat thickness increases, the percent BCTRC will decrease. Body wall thickness is a measurement across the lean, bone, and fat of the loser rib. This area can accumulate excess fat and thus, serves as an indicator of lean meat yield. BWT usually ranges from 0.5 - 1.2 inches.

Procedures

In the youth lamb project, the market lamb portion is one that allows smaller youth to get involved at a young age because the size of the animal may fit the size of the child, however that doesn't limit the knowledge of the participants. This project was started to allow youth that do not traditionally get to evaluate their carcasses a live glimpse at them. This can also help them to make their own decisions regarding technology such as ultrasound. This report marks the 2nd year of an ongoing project known as the North Dakota Live Lamb Carcass

Contest. In the sheep project for 4-H, FFA, or Junior sheep members, youth can enter their live market sheep for ultrasound measurements, weight measurements, and then combine that for an index of percent boneless closely trimmed retail cuts (% BCTRC=49.936-(0.0848 X HCW)-(4.376 X FT)-(3.530 X BW)+(2.456 X REA). This contest was offered at the North Dakota State Fair and was open to youth members. Weights and ultrasound measurements were taken from 109 lambs entered our database.

Results and Discussion

After the calculations for % BCTRC were determined the top 20 in the contest received awards from the North Dakota Lamb and Wool Producers Association. The top lamb % BCTRC was 50.63, had a 4.87 in. REA, and 0.5 in. FT. The range for all of the competitors was 2.13 - 5.40, BWT ranged from 0.47 - 1.77, FT ranged from 0.2 - 1.40, and the % BCTRC ranged from 43.84 - 50.63. Many of the ranges were larger than the previous year. This may be due to weather factors over this strange weather pattern year. There was a growing interest as well in the project. Many of the youth remembered this from last year and compared their previous results, but also analyzed all of the carcass factors.

Implications

With this ongoing project, we will be able to evaluate the progress of the youth market lamb project and how selection can affect carcass traits.