

Leading Edge Sheep Producers





Background

- Estimated Breeding Values (EBVs) - Proven method of accurately predicting if an animal will pass on important traits such as growth rate, reproductive proficiency, carcass quality, wool quality, and parasite resistance (nsip.org)
- Peer reviewed scientific studies have demonstrated the ability of EBVs to increase growth rate and carcass value, however, little evidence has been documented in an actual commercial setting

Initial Trial

- Initial trial in commercial setting performed in 2016
- Demonstrated impact of EBVs



Initial Trial

- Industry terminal sires vs. NSIP terminal sires
- NSIP Rams selected for growth
- Two different breeding groups, tagged for identification
- Managed as one herd before and after lambing



Initial Trial Results

- Demonstrated that lambs from NSIP terminal sires weighed an average of 3 pounds heavier at weaning compared to their counterparts sired by non-NSIP industry terminal sires



Lets Grow Grant Objective

- The efforts of this project are designed to increase the use of EBVs that will improve productivity and profitability of the commercial producer, feeder and packers sectors of the industry
- A barrier of adoption – producers, feeders and packers unaware of the value of quantitative genetic selection



Lets Grow Grant Objective

- Field study will identify which traits of terminal sires have the most impact on productivity and profitability and demonstrate the value of Estimated Breeding Values (EBVs) in a commercial setting
- The effects of EBVs on weaning and post weaning weight, loin eye muscle depth and backfat will be determined in this trial





Implementation

- Mature commercial Rambouillet ewes will be divided into 4 groups and randomly assigned to 1 of 4 groups of yearling Suffolk rams for breeding
 - Growth: Rams selected with EBVs in top 10% for weaning weight and post weaning weight
 - Muscle: Rams selected with EBVs in top 10% for post weaning loin eye muscle depth
 - Carcass: Rams selected with EBVs in top 10% in carcass plus index value
 - Industry: Industry rams which have not been selected on any EBVs from NSIP

Implementation

- Following breeding period, groups will be mixed and managed as one herd throughout gestation
- Lambs will be individually identified when born with ear tag and again managed as one herd throughout the summer grazing period
- At weaning, lambs will be sorted and weighed





Implementation

- Upon arriving at feed lot individual empty bodyweight and an ultrasound image will be collected for determination of loin muscle depth and subcutaneous fat thickness between the 12th and 13th ribs for each lamb
- Lambs will be slaughtered at a commercial abattoir when the average subcutaneous fat thickness of the lot is estimated to be 0.2 inches by visual appraisal. Approximately 24 h post slaughter, chilled carcass weight will be collected along with visual analysis by instrument grading. Further, 12th rib loin eye area, loin depth, back fat thickness and body wall thickness will be collected by trained personnel

Conclusion

- Results will be analyzed and effectiveness of utilizing EBVs in a commercial operation will be determined
- First trial of its kind to track individual lambs from birth to slaughter in typical commercial setting
- Trial results will be shared with industry

