Texas A&M AgriLife Dorper/ White Dorper Progeny Test

3/29/2023

Overarching Goals

1. Provide an annual resource for registered breeders to evaluate Dorper and White Dorper sheep for growth, parasite resistance, carcass and reproductive genetic merit when placed in a setting indicative of commercial sheep production in west-central Texas.

2. Increase the adoption of the latest genetic technology by Dorper and White Dorper producers to help improve breeding, selection and management decisions within their flocks.

3. Create and strengthen genetic linkages between Dorper and White Dorper flocks to improve the accuracy of estimated breeding values.

Summary

Texas A&M AgriLife in San Angelo, TX is proposing to hold a sire evaluation test to compare the performance of progeny from rams consigned by ADSBS breeders. Rams would be consigned by cooperating producers for approximately 3 months, during which they will be group mated to Texas A&M AgriLife's Dorper x White Dorper flock that has been an active member of NSIP, since 2018. This flock is managed on a 5,000-acre ranch with range conditions indicative of commercial sheep production in this semi-arid region. Lambs will be born in the pasture, with pedigree of each lamb being determined via DNA testing using the AgResearch 60K SNP chip. Progeny will have performance records captured, including (but not limited to) weaning and post weaning weights, fecal egg counts following a feedlot-based artificial parasite challenge, carcass data both live (via ultrasound) and actual harvest/meat quality data and lifetime reproductive performance of ewe lambs. By combining DNA testing (genomic technology) with pregnancy ultrasound, specific data including ewes settled, lambs born, and lambs weaned can all be recorded while the flock remains in an extensive setting.

Analysis of data will be performed in a way that compares sire-groups within each annual testing period to one another. To maximize the value of this genetic information, all relevant performance records will also be submitted to the National Sheep Improvement Program by Texas A&M to generate estimated breeding values (EBV) for the consigned sires. Because progeny will be produced in one central flock but sired by rams from outside breeders, this sire-evaluation test will strengthen the "genetic connectivity" between cooperating producers. For producers that are also enrolled in NSIP, this will mean that the EBVs on their sheep will improve in accuracy with every year the sire-test is conducted. We believe this sire-evaluation strategy is an improvement on the traditional ram-testing protocol and are excited about the opportunity to work with the ADSBS to implement this progressive approach. The proposed sire-evaluation is modeled after the Merino Superior Sires program in Australia which has been instrumental to the adoption and expanded use of genetic technology by Australian breeders.