

Genetic Evaluation Developments for Canadian Sheep

S.P. Miller SP, Schaeffer LR, Palucci V, Wilton J, Tosh J, Vandervoort GE. Centre for the Genetic Improvement of Livestock, University of Guelph

A new genetic evaluation model for sheep growth and ewe productivity traits have been developed, tested, and applied to available data from Ontario and Quebec for all purebred and crossbred animals. The genetic evaluation system being developed can be considered the “Genetic engine” which computes the EPD that are used to rank animals for genetic merit. This genetic engine offers significant improvements over the engine that is currently in place. Improvements include a multiple trait analyses as well as the addition of new traits. The multiple trait analyses includes the growth analyses including Lamb survival to weaning, birth weight, weight at 50d, Weight gain from 50 to 100d, Ultrasound loin depth and fat thickness. Ewe productivity included age at first lambing, number born at first lambing, number weaned from first lambing, interval between subsequent lambings, number born at later lambings, and number weaned at later lambings. The multiple trait analyses provides a more accurate analyses as information from correlated traits recorded are used and relies on estimates of genetic and environmental correlations between traits and these have been estimated. Heritability of survival and interval between lambings was close to zero and age at first lambing low (.03-.08). Producers should make every effort to ensure quality data including events from all litters, even those that do not result in live lambs. Incomplete recording could be contributing to the low heritability estimates for these traits. The other traits had similar heritability estimates to expectations.