

Targhee

NSIP Notebook

June 6, 2005

Number 7

The 2005 Targhee National Genetic Evaluation

David Notter, Randy Borg, and Larry Kuehn
Department of Animal and Poultry Sciences
Virginia Tech

Introduction

Genetic analysis of the 2004 Targhee lamb crop is now complete, and results are available for distribution to participating NSIP Targhee breeders.

The Data

Data for the 2004 lamb crop included records on 1,748 breeding ewes from 15 flocks: 12 from Montana and one each from Michigan, Minnesota, and Oregon. Records were received for 2,626 live lambs produced by 69 Targhee rams. Following editing, valid records were received for 786 60-day weaning and/or preweaning weights, 1,838 120-d weaning weights, 361 yearling gains, 895 fleece weights, 921 fiber diameter (fleece grade) measurements, 638 staple lengths, and 1,647 litter sizes.

The entire NSIP Targhee across-flock database now contains records from 41 flocks with 14,361 60-day weaning and preweaning weights, 27,453 120-day weaning weights, 7,916 yearling gain records, 14,690 fleece weights, 11,006 fiber diameter measurements, 8,848 staple lengths, and 25,584 litter sizes. EPDs were calculated for a total of 44,668 animals, including 11,931 breeding ewes and 933 sires.

Means for reported traits are shown below. Weaning and preweaning weights (both 60- and 120-day) were adjusted to a single birth and rearing, adult dam, and ewe lamb basis. Yearling gains were not adjusted, but male and female lambs were placed in separate contemporary groups. Yearling fleece weights and staple lengths were adjusted to an age of 365 days. Fleece weights and staple lengths for older animals were adjusted to an adult animal and 365-day shearing interval basis. Fleece grades for yearlings did not receive any adjustments. Fleece grades for older animals were adjusted to an adult animal basis. For fleece traits, yearling and older animals, and males and females were placed in separate contemporary groups. Litter sizes were adjusted to an adult ewe basis.

<u>Trait</u>	<u>Mean</u>
60-day adjusted weaning/preweaning weight	55.3 lb
120-day adjusted weaning weight	88.3 lb
yearling gain (120 to 365 days)	.27 lb/day
fleece weight	8.6 lb
fiber diameter	22.1 microns
staple length	3.4 in
<u>litter size</u>	<u>1.73 lambs</u>

Data on the 2004 Targhee lambs were received at the genetic evaluation center on April 30, 2005. EPDs were returned on June 3, for a turnaround time of 34 days.

EPD Reports

This year's EPD report has essentially the same format as last year's report. Animals in the spreadsheet are listed in the following order: breeding ewes, yearling ewes, breeding rams, and yearling rams. The listing should contain all breeding animals listed on the preprinted data entry spreadsheet, any breeding animals that were added to inventory, and all surviving lambs from the current lamb crop. Animals that were culled or died will be identified; EPDs will be provided for these animals, but they will not appear on next year's spreadsheet.

The 2005 Targhee Sire Summary

The 2005 NSIP Targhee Sire Summary is also now available for distribution to breeders and other interested parties. In order to be eligible for the Sire Summary, a ram must have prediction errors that do not exceed 1.6 for weaning weight, 1.1 for maternal milk, 3.1 for yearling weight, 0.2 for fleece weight, 0.3 for fiber diameter, or 0.085 for staple length. This year's sire summary contained EPDs for 288 rams. From these, 112 rams born after January 1, 1996 were listed in the main sire summary.

Submitting Data for Next Year

There will be no major changes in submitting data for next year. Each NSIP Targhee breeder will again receive a preprinted data entry spreadsheet for reporting data. All active animals from the flock, including breeding ewes, ewe lambs, breeding rams, and ram lambs should appear on that spreadsheet. Use of the preprinted spreadsheet to report data is again mandatory. Errors in animal identification (birth dates, tags, registration numbers, parents) can be corrected as needed and newly registered animals can have their registration numbers added. Newly purchased animals can be added at the bottom of the spreadsheet with identification information and performance records.

Genetic Trends in the Targhee Breed

Patterns of change in EPDs since establishment of NSIP in 1986 are shown in Figure 1. These results document the traits that have received emphasis in participating Targhee flocks. Each point represents the average EPD of all animals born in each year since 1986. Consistent and significant increases have been observed for weaning weight, yearling weight, maternal milk, and percent lamb crop, although the rate of increase in maternal milk and percentage lamb crop may have slowed in recent years, probably as a result of concern about the optimal level of milk production and prolificacy in the breed. Fleece weights have increased while fiber diameter EPDs have consistently declined, demonstrating the potential of EPDs to allow simultaneous improvement in these antagonistically correlated traits. The observed patterns of change in EPDs are consistent with the primary role of the Targhee as a dual-purpose breed, attempting to make balanced improvement in a number of economically important traits.

Changes in EPDs in Figure 1 are not particularly large, approaching 0.1% per year for weaning weight, yearling weight, and fiber diameter. Changes in EPDs for number born and fleece weight also reached 0.1% per year in the latter half of the period. These values could be increased by more intense selection. However, the observed trends in EPDs are generally similar to those reported for beef cattle and represent gradual and consistent changes in the breed as a whole. By comparison, the average annual increases in EPDs for weaning weight and yearling weight for the five largest U.S. beef breeds range from about 0.1 to 0.3% per year.

Figure 1. Genetic Trends in Targhee EPDs

