

*Targhee*  
NSIP Notebook

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Number 2

**The 2002 Targhee National Genetic Evaluation**

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**Introduction**

Genetic analysis of the 2001 Targhee lamb crop is now complete, and results are available for distribution to participating NSIP Targhee breeders. Genetic evaluation reports will be similar to those distributed last year, but with a few changes which will be described in this newsletter.

**Targhee NSIP Data for 2002**

Data for the 2001 lamb crop included records on 1,775 breeding ewes from 15 flocks: 12 from Montana and one each from Michigan, Minnesota, and Oregon. Records were received for 2,542 live lambs produced by 64 Targhee rams. Following editing, valid records were received for 924 60-day weaning and/or preweaning weights, 1,952 120-d weaning weights, 248 yearling gains, 719 fleece weights, 532 fiber diameter (fleece grade) measurements, and 1,633 litter sizes.

The entire NSIP Targhee across-flock database now contains records from 40 flocks with 11,017 60-day weaning and preweaning weights, 21,745 120-day weaning weights, 5,578 yearling gain records, 12,352 fleece weights, 8,760 fiber diameter measurements, and 20,798 litter sizes. EPDs were calculated for a total of 37,179 animals, including 10,337 breeding ewes and 837 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 were adjusted to an age of 365 days. Fleece weights 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.

Trait	Mean
60-day adjusted weaning/preweaning weight	55.2 lb
120-day adjusted weaning weight	87.8 lb
yearling gain (120 to 365 days)	.27 lb/day
fleece weight	8.6 lb
fiber diameter	22.2 microns
litter size	1.72 lambs

Complete data on the 2001 Targhee lambs were received at the genetic evaluation center on July 18, 2002. EPDs were returned on August 14.

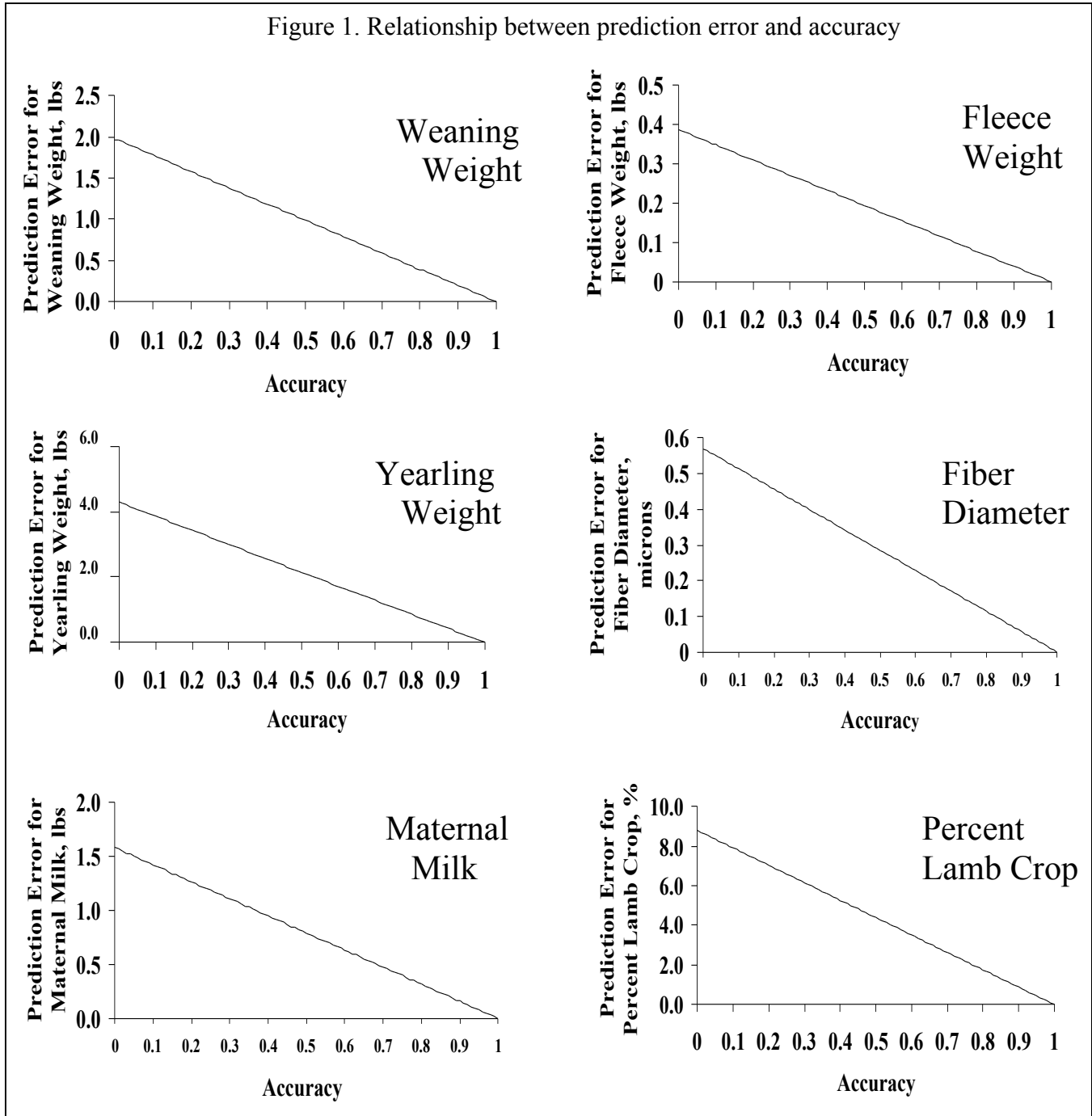
**EPD Reports**

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.

As indicated last year, the reliability of the EPDs is now indicated by their "prediction errors". Accuracies of EPDs are no longer reported, but a graph showing the relationship between accuracy and prediction error for each trait is shown below (Figure 1) to help breeders relate the current prediction errors to the accuracies reported in previous years. Breeders who want more information about the definition and use of prediction errors should see last year Targhee NSIP Notebook.

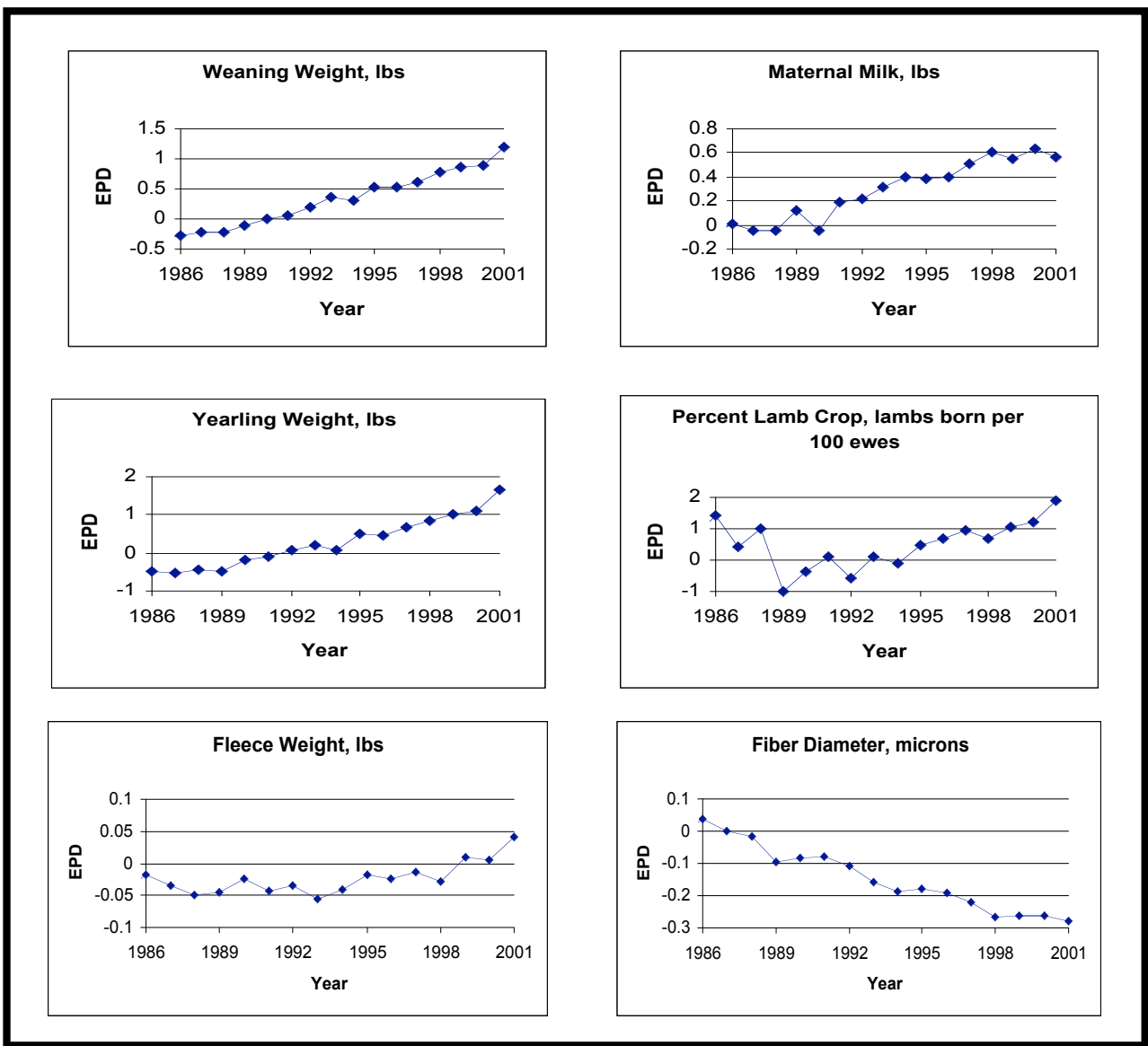
Figure 1. Relationship between prediction error and accuracy



## Genetic Trends in the Targhee Breed

Patterns of change in EPDs since establishment of NSIP in 1986 are shown in Figure 2. 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 changes were observed for weaning weight, maternal milk, yearling weight, and fiber diameter. Fleece weight EPDs also increased significantly over this period, especially after 1993. Changes in EPD's for number of lambs born were less consistent and not significant over the entire period, but did increase significantly after 1989. These patterns 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.

Figure 2. Genetic Trends in NSIP Targhee Flocks



Changes in EPDs in Figure 2 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 certainly be increased, if desired, 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.

### **The 2002 Targhee Sire Summary**

The 2002 NSIP Targhee Sire Summary is likewise now available for distribution to breeders and other interested parties. In order to be eligible for the Sire Summary, a ram must have an accuracy value of at least .30 for weaning weight, yearling weight, or maternal milk or of at least .40 for fleece weight or fleece grade. This year's sire summary contains EPDs for 212 rams. From these, only the 107 rams born after Jan. 1, 1993 were listed in the main sire summary.

### **Submitting Data for the 2002 Lamb Crop**

No major changes are anticipated in submitting data in 2003. As for last year, each NSIP Targhee breeder will receive a new, preprinted data entry spreadsheet for reporting data on the 2002 lamb crop. All active animals from the flock, including breeding ewes, ewe lambs, breeding rams, and ram lambs will be listed in a single spreadsheet arranged in sections corresponding to the different classes of animals.

Again, use of the preprinted spreadsheet to report data is 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. The objective is to avoid recopying animal identification information from year to year. In this way, we will know that reported changes in animal identification information do represent corrections made by the producers. Newly purchased animals can be added at the bottom of the spreadsheet with identification information and performance records.