# National Sheep Improvement Program Releases New Ewe Productivity Trait: Katahdins are the First Breed to Benefit

*Jim Morgan, Data Coordinator for Katahdin NSIP Breeders' Group*

The U.S. National Sheep Improvement Program (NSIP) is pleased to release new EPDs (expected progeny differences) for ewe productivity. Starting in 2004, Katahdin NSIP producers received EPDs for percent weaned and pounds lamb weaned per ewe lambing. These EPDs are used to identify ewes and rams that will have progeny superior at weaning increased pounds of lamb.

Currently, Katahdins are the only breed receiving this genetic evaluation in a cross-flock, nationwide evaluation in North America. In the future more breeds may receive it as well. These analyses include flocks from Canada and the USA.

Economic Importance of Ewe Productivity Trait - I queried Dr Charles Parker about the Ewe Productivity Trait. Dr Parker, Honorary Life Member of KHSI and Emeritus Professor and Department Chair of Animal Science at Ohio State University and Retired Director of the US Sheep Experiment Station wrote the following: "At this transitional stage of the U.S. sheep industry, there is no more important economic trait to the commercial sheep industry than - pounds of quality lamb marketed per ewe per year. Development of the NSIP - Ewe Productivity Trait based on pounds of lamb weaned is a major technological contribution for genetically improving meat production and profitability of sheep. Litter weight per ewe at weaning is a biological index strongly affected by related reproductive and maternal attributes. Research studies at the U.S. Sheep Experiment Station, Dubois, ID, have shown that selecting for litter weight is associated and improves prolificacy (number of lambs born), percentage of lambs weaned, lamb weight, fertility and ewe viability. The same studies showed no genetic change for wool characteristics after twelve years of selection for litter weight at weaning. Optimal performance levels of the Ewe Productivity Trait reflect a genetic balance in harmony with production environment and management conditions."

"Success in the swine industry supports the sheep industry adopting a maternal productivity index. The Sow Productivity Index (number of live piglets born + litter weight at weaning) has contributed significantly to a 75% increase in pounds produced per sow per year in the U.S. swine industry since 1985. Today, SPI has become internationally recognized and successfully used as an economic production trait by all major breeds and swine breeding companies."

What information does the Ewe Productivity Trait (EPT) provide? Katahdin breeders receiving genetic evaluations from NSIP received two new analyses for their flocks in 2004. An EPD (expected progeny difference) for lbs lamb weaned/ewe lambing (called EPT or ewe productivity trait) and an EPD for percent weaned.

A major advantage of NSIP and cross-flock performance evaluation is that EPDs factors in the performance of relatives in multiple flocks. The goal for the Ewe Productivity Trait (EPT) is to identify and select genetics that repeatedly wean above average lbs lamb weaned/ewe lambing and to select against genetics that wean few or very small lambs. Coupling EPDs for a) lbs lamb weaned/ewe lambing, b) percent weaned and c) percent lamb crop, allows a shepherd to select the genetics for prolificacy, weaning and growth they need for their operation. Breeders can select for genetics that will increase the consistency of twinning, survival and growth. High nutrition systems will be most profitable with higher prolificacy. Most forage based systems (low grain) will want twinning genetics. All systems will be most profitable selecting for ewes that can and do raise their lambs (genetics for lamb survival). It doesn't matter what the growth potential or conformation of a lamb is, if the lamb is not weaned.

For more information on Katahdins in the National Sheep Improvement Program, contact Jim Morgan, 479-444-6075; **jlmm@earthlink.net** 18235 Wildlife Rd, Fayetteville, AR 72701

*The Katahdin NSIP Breeder's Group thanks and recognizes Bindu Vanimisetti, Professor David Notter and Larry Kuehn of Virginia Tech and the NSIP Genetic Evaluation Center for developing the Ewe Productivity Trait for the Katahdin NSIP Breeders.*

**Deadline for articles and ads for the next Katahdin Hairald is July 1st**