



NSIP Fact Sheet NSIP-008-01

NSIP Traits

NSIP traits belong to three general categories:

Maternal Traits

% Lamb Crop, Maternal Milk, Milk+Growth

Growth Traits

Weaning Weight, Postweaning Weight, Yearling Weight

Wool Traits

Grease Weight, Staple Length, Fiber Diameter

Note: Different breeds evaluate different combinations of these traits.

NSIP

6911 South Yosemite, Suite 200
Denver, CO 80112-1414

Phone: (303) 771-5717
Fax: (303) 771-8200

www.nsip.org

How to Use EPDs to Purchase Breeding Animals

This fact sheet outlines some practical guidelines on how to use EPDs from your own flock or a seller's flock to buy breeding stock.

First, Use Your Own NSIP Records:

- ◆ First, look at your own flock's production and management records. Good records should summarize your flock's performance for maternal traits, growth traits (for the lambs), and wool traits (if you measure them). Where does your flock need improved genetics?
- ◆ Study your flock's lambing records from the past one or two years. NSIP requires this information on its Data Entry spreadsheet, so it should be readily available to you. These records can provide you with important insights about your management. For example, notice the spread of birth dates during lambing. A distinct gap during lambing can indicate severe heat stress or a low-plane of nutrition during breeding, which are not correctable through genetics. Also look at your flock's age distribution. Younger flocks have a faster genetic turnover, which accelerates the rate of genetic improvement.
- ◆ Based on your own records and financial situation, then decide how many ewes to cull, how many rams and ewes you need, and how many breeding animals to add. Decide which trait(s) you wish to improve and which traits you want to maintain at current levels. Even if the sellers do not have EPDs for their animals, at least you have already used your own records to guide your initial decisions.
- ◆ The following sections describe how to use the seller's NSIP data in three typical situations:

Purchasing a Terminal Sire:

- ◆ **Primary Goal:** To find a ram that will transmit a high genetic value for growth to lambs all destined for market. Basically, you are looking for a ram that can sire crossbred lambs that will reach a desired market weight quickly and efficiently.
- ◆ You are *not* looking for wool traits or maternal traits in this terminal sire. Its genes will have no effect on your breeding ewes.
- ◆ **Breed:** Choose a terminal sire breed that is different from your ewe breed or from the breeds that constitute your crossbred ewe. You want to take advantage of hybrid vigor (heterosis) in the lambs which can only be obtained by crossbreeding.
- ◆ **Growth Traits:** Look specifically for high EPDs for weaning weight and postweaning weight. Avoid any rams with low or negative EPDs for these growth traits.

Selecting Animals

The selection process is a method of systematically narrowing your choices until you are left only with the genetically superior animals that meet your needs.

The Terminal Sire

A terminal sire is a unique breeding situation. Your selection decisions assume that all the progeny of this ram will be sold to market. This is one of the few times in breeding selection that you ignore most other performance traits except the singular ability to grow. However, be careful: a year from now, when you see very growthy lambs from this ram, you shouldn't say "Let's keep those good-looking lambs!" Remember, these lambs will probably not have superior genes for maternal or wool traits because you consciously ignored those traits when you selected this ram. Also, these growthy lambs will tend to increase your ewe weights, which will increase your overhead maintenance costs. Don't be tempted to keep these lambs for breeding.

- ◆ **Basic procedure:** Concentrate on breed, growth traits, and mature lean body size.
 1. The seller should provide, at the very least, a full set of EPDs and ACCs for each animal for sale.
 2. *Before* going out into the pens, do a kitchen table selection: scan the sales catalog or the seller's genetic records and look at all the EPDs. Pick out only those animals who have superior EPDs for growth traits. Your preliminary selection now consists of only rams with superior EPDs for growth.
 3. Now go out into the sale pens. Visually inspect *only* the rams of your preliminary selection group. Ignore the others **C** they don't have the growth genes you need. Carefully inspect each ram for soundness and condition. Eliminate any that do not meet your specifications.
 4. Evaluate each ram's structural soundness and condition only as it may relate to its ability to serve ewes and its longevity in your flock. Remember to look at scrotal circumference, epididymitis test results, etc. You can realistically ignore skin fold scores, family histories of vaginal prolapses and udder problems, and other characteristics that are important in replacement animals. Remember, you are looking for a terminal sire. The progeny of this ram will not be around long enough for these other faults to cause problems
 5. The remaining rams are your bidding group. Good luck.

Purchasing a Ram for Producing Replacement Ewes:

- ◆ **Primary Goal:** To find a ram of the appropriate breed that will transmit high genetic values for traits economically important to your flock. These traits can be any combination of maternal, growth, or wool traits, depending on your production goals.
- ◆ *This situation is different than choosing a Terminal Sire.* These rams will produce replacement animals, and you should be more demanding about overall genetic quality and more restrictive in your choices than when you are selecting terminal sires. You buy fewer rams than ewes, and the genes from these rams will be distributed far more widely in your flock than those from individual breeding ewes. Your flock may live with these genes for many generations. In fact, after a few years, the genes from these rams will contribute nearly 90% of your flock's genetic change.
- ◆ **Basic procedure:** Similar to selecting a terminal sire, as described above. First go through your own management records to evaluate your flock's weaknesses and to determine its needs. Then make a preliminary selection of rams or ram lambs based on the seller's EPD records. Choose only rams who have superior EPDs for the trait(s) you need. Then walk through the pens and visually evaluate each of the remaining rams. Here are a few critical additions:
 1. Of the preliminary selection group, eliminate any rams that have very low EPDs for *any* traits that may be important to you. Narrow your selection group. You don't want permanent breeding stock that will reduce your flock's genetic value. Set minimum values for any EPDs that come onto your property. Your preliminary selection now consists of only rams with superior EPDs.

2. If possible, visit the seller's flock. Get an impression of the operation's general health status and production level. Ask yourself if the seller is a person who can maintain good and dependable records.
3. Now go out into the sale pens. Carefully inspect each ram for soundness, condition, and other non-NSIP traits. Eliminate any rams that do not meet your specifications.
4. Ask the seller(s) about the rams in your selection group. If possible, look at the seller's records for each adult ram or the parents of each ram lamb. Inquire about health, vaginal prolapses in relatives, entropion, behavior problems. If footrot was on the property, did the parents of these rams respond to the treatment? (Avoid any rams that may be resistant to footrot control).
5. The remaining rams are your bidding group.

Purchasing Replacement Ewes or Ewe Lambs:

- ◆ **Primary Goal:** To find sound, healthy breeding ewes of the appropriate breed that will improve the genetic value for the trait(s) you need. These ewes will produce your market lambs and other breeding stock for replacement and sale. Remember: these genes will be in your flock for a long time.
- ◆ **Basic procedure:** Similar to that outlined above for selecting sires of replacement ewes. First go through your own management records to evaluate your flock's weaknesses and to determine its needs. Scan the sales catalog or the seller's genetic reports and look at all the EPDs. Make a preliminary selection of ewes or ewe lambs based on their EPDs. From this list, eliminate any ewes who have very low EPDs in any traits.

Then walk through the pens and visually evaluate each of the remaining ewes. Ignore the others if they don't have the genes you need or are carrying genes that may reduce your flock's production. Look at your selected ewes for condition, structural soundness, feet and legs, etc. Ask the seller(s) about non-NSIP characteristics such as entropion, vaginal prolapse, scrotal hernias, spiders, resistance to footrot control, etc.
- ◆ The remaining ewes are your bidding group. Good luck.

For Further Information:

SID Sheep Production Handbook, Breeding Chapter.



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