

DORSET BREEDERS - The National Sheep Improvement Program: Is it for you?

Most livestock producers have become familiar with the term EPD over the past few decades. We see the information as common place when selecting a bull or buying semen, however many may not know this technology is available to sheep producers.

Producers now have another tool in their toolbox to assist in selecting sheep – the National Sheep Improvement Program. As chairman of the NSIP board, Jim Morgan notes the program “increases the accuracy of identifying superior performance traits.” The idea is catching on fast as the program numbers have skyrocketed with the program seeing a 44% increase in the number of flocks involved since 2003. With this type of growth, one might ask “What is this program and how can I get involved?”

According to the home page of the association's website (www.nsip.org), the program “specializes in computer genetic selection of sheep based on performance.” The program uses EPDs, commonly known as Expected Progeny Differences, to measure the genetic value of performance traits. The NSIP is able to provide a diverse set of data by collecting information from purebred producers and compiling the data into usable and comparable figures that can be measured across a breed. Thus, the NSIP enables producers to easily identify the best “genetic stock for their breeding programs” by using a state of the art identification system.

The National Sheep Improvement Program is made-up of four primary areas: an executive board that directs the process, Virginia Tech University who currently oversees the compilation of data, an administrative center located at the American Sheep Industry headquarters in Colorado, and a group of breed representatives to coordinate the collection of information for the various breed associations.

The program works by collecting data from purebred producers enrolled in the program. Traits can be evaluated for two areas, the standard farm flock and range flocks. Farm flocks can receive EPD information for a 60 day weaning weight, a 120-day post weaning weight, a 60-day maternal milk, and a percentage lamb crop. Range flocks data includes a 60-day pre-weaning weight, a 120-day weaning weight, a yearling weight, fleece staple length, fiber diameter, fleece weight and a percentage lamb crop. A few breeds have additional specific traits measured such as the Katahdin breed, which also obtains data for the percentage of lambs weaned, the pounds of lambs weaned per ewe exposed, and fecal egg counts.

Producers become involved in the program by submitting an enrollment form to the NSIP office. The form simply includes contact information, breed and flock size. Once a producer is enrolled they will be asked to submit their data electronically to their breed coordinator. The breed coordinator then submits the information to Dr. Dave Notter at Virginia Tech University. Dr. Notter and his team run the data through a complex computer program to obtain EPD information. Once the genetic values are calculated, the information is sent back to the breed coordinators, who use the results to publish the breed sire summary. In addition, results are sent back to individual producers. To keep the process simple and efficient, most of the communication is done via computer and the internet.

The cost for the process is reasonable in comparison with the valuable data obtained by the producer. Each breed association sets their own fee schedule based on a figure from NSIP. There is also an additional price scale for smaller breeds involved in the program. The fees are determined at the time of producer enrollment in the program and the producer is assessed on the number of breeding animals listed.

Great strides have been made over the years to make the program more accessible to all breeds. NSIP chairman Jim Morgan from Arkansas pointed out is it “now easier for breeds not involved to get involved in the process.” Numbers appear to be backing this theory as Jim pointed out “from June 2007 to June 2008 there has been a 23.1% increase in the number of flocks using NSIP.”

This trend is to the advantage of producers. As more producers get involved in the process, the data becomes more accurate. Whereas in the beginning producers could receive flock EPD data,

known as FEPD, the primary focus of the program today is to present producers with EPD information that can specifically be evaluated across flocks. This system works well for many of the breeds immersed in the program.

According to Morgan, several breeds have a number of flocks in the program. The Katahdin and Targhee breeds appear to be the most widely represented with approximately 2000 ewes/breed/year participating in the NSIP program. Suffolks and Polypays follow closely behind with 1000 head of sheep participating within their respective breed categories. Other breeds active in the program are Columbias, Dorsets, Hampshires, Rambouillets, Coopworth and Romneys. In addition, the program has seen a surge in the number of Doerpers and White Doerpers recently involved in the program. NSIP also runs data for the Boer Goats and some Alpaca breeders, and they are looking at adding Kiko Goats and possibly Shropshires in the future.

Jim Morgan also noted flock improvement and numbers appear to vary depending upon the average flock size of the breed. He pointed out for example, "In 2007, 18 Targhee flocks represented 1900 head of ewes whereas 46 flocks of Katahdin enrolled 2217 ewes." He also explained the board has seen an "increase in the number of small breed groups over the past year."

Although EPDs are proving to be a valuable commodity for purebred producers, commercial operators have quickly caught on to the process and started utilizing the data to enhance their crossbred flock's performance capabilities. Morgan noted there are "three sales around the country where EPD records are commonly used." The sales include the Miles City Ram Sale in Montana, the Center of the Nation Sale in Iowa and the National Katahdin Sale. Morgan explained that the rams going through the sales with EPD information are consistently outselling the rams without data. This year the Center of the Nation Sale had a record 181 head of sheep consigned.

Jim Morgan explained the primary downside to using EPDs in sheep production is the "species that have seen the best increase in EPDs use artificial insemination on a regular basis." With that said, he was quick to praise the impact of the present use of NSIP data has had on the industry. Producers involved in the program have surely seen an improvement in overall performance based on the data and in turn been able to utilize the program as another marketing tool.

Morgan wrote in a recent article titled Selecting Superior Meat Sheep in the 21st Century, "A protocol for selection of superior livestock for meat performance needs to balance economically important traits, including reproductive efficiency and maternal behavior as well as rate of growth and muscling." By combining conformation traits with the technology afforded us through the National Sheep Improvement Program, producers will have access to more tools to increase educated decisions about the selection of the future cornerstones to breeding programs. If the NSIP program growth continues on its course, we will soon be utilizing EPD data on a regular basis to improve our flocks."

Written by K. T. Jones (reprinted with permission from Banner Magazine)

Decrease Feed Costs Through Increased Pasture Production

By Melanie Barkley
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As our production costs continue to climb, sheep producers are looking at ways to become more efficient in feeding their sheep. While that statement would be considered a “no-brainer,” a look at the basics of pasture production should help us achieve that goal.

As an Extension Educator, I spend a lot of time recommending soil testing. It still amazes me that folks will practice any kind of fertility program without first checking their soil to find out what nutrients it is lacking. At the top of the list for soil fertility issues is the soil pH. As the pH of the soil moves further away from the neutral zone of 7.0, some nutrients become unavailable to the pasture plants. Thus, if the plants can't use the nutrients we add to the soil, the plants won't grow as well as they could. Nutrients such as manganese and aluminum become more soluble in the soil when soil pH approaches 5.0 and can be present in high enough amounts to be toxic to alfalfa and clovers. This obviously translates into less pasture production to feed the sheep.

The challenge to maintaining pasture fertility comes when we look at how to meet the nutrient needs of our plants, but still keep some money in our pocket. For nutrients, I look to ways to “grow my own.” One of the rules of thumb for pastures has been to keep about 30% of your pasture as a legume. This will provide the needed nitrogen for your grasses and still maintain your pasture at about that percentage of legumes. But, the soil pH must be near that 7.0 level in order for the nodule-forming bacteria on legumes to produce the needed nitrogen. You may still need to add phosphorus and potassium and possibly some other nutrients to maintain the best balance for plant growth.

Next on my list would be management related issues. Start with looking at the type of forages that are growing in your pastures and manage them to prevent stressing or weakening the plants. Some forages can be grazed low to the ground without any adverse affects. Other plants need to be grazed at higher levels. For most cool season forages, move sheep out of a field before the height reaches 3 inches. This manages the plants and serves as a control measure for internal parasites. Some of the warm season grasses will need rotated out when they are 6 inches tall.

As we move through the fall grazing season, don't forget about overwintering heights. Warm season grasses such as switchgrass and big bluestem should be at least 12 inches tall for the winter. Fescue and orchardgrass should go into the winter at five to six inches in height, clover pastures at five inches, and bluegrass pastures at three inches. I would also use caution with red clover because of the estrogenic effects it can have on sheep.

Another consideration for fall is to look the variety of species growing in the pastures. Are there weed problems that should be addressed? Chemical controls can work very well in the fall of the year because products are moved rapidly from the leaf area to the roots because plants are starting to store energy reserves for the coming winter.

Are there other forages that you would like to introduce into your pastures? Fall can be a great time to introduce a new species by no-tilling into the existing sod. You may want to overgraze a bit before seeding the fields to decrease competition with the existing plants in the field. The following year the pasture should be grazed to proper heights so that the new seedlings can compete better with the established forages. Be sure to avoid over grazing so the new seedlings aren't stressed or weakened.

New forage species can also be frost seeded into pastures during late winter. This works well for legume species such as white clover. This is a process where the seeds are broadcast early in the morning after a hard frost. The sun warms the soil during the day and the frozen “honeycomb” that developed the night before slowly closes over the seeds. Grass seeds are normally too light and fluffy for frost seeding. The soil doesn't cover them over as well as the legume seeds and thus they don't germinate as well.

A leisurely walk through your pastures can be time well spent when you evaluate the forage

production and consider how those forages can save you money feeding your sheep. For information on forage species appropriate for your pastures or for information on soil testing procedures, contact your local Cooperative Extension office.