Data Gives Goat Producers a Look at the Whole Package

You can't manage what you don't measure.

Those now famous words of famed American businessman Lee Iacocca ring especially true for the goat industry as it strives to meet steady consumer demand.

"The use of data in goat production becomes more and more critical as we look ahead at ways to improve," says Dr. Kenneth Andries, Assistant Professor at Kentucky State University. "It's the best way to realize value."

Andries has enrolled Kentucky State's 100-head research herd in the National Sheep Improvement Program to reap the benefits of data collection and management on the larger scale. "We do breed comparisons (primarily Boer, Spanish and Savannah) of meat goats," he explains. "Until NSIP, we made genetic selections from on-farm performance only. Now we have the benefit of NSIP Estimated Breeding Values (EBVs)."

Using a small number of U.S. goats combined with a database of Australian goats, NSIP calculates EBVs for a number of economically significant heritable traits. "It's a more accurate method than actual records," says Andries.

Estimated Breeding Values are a progeny performance prediction based on individual pedigree data compared to breed average. A 2.2 EBV for weaning weight, for instance, indicates an animal's offspring will likely weight 2.2 pounds more at weaning than breed average.

NSIP calculates several EBVs for goats, including 10 that are considered by Andries to be economically crucial. Those include maternal traits, number of kids born and weaned; birth, weaning, post-weaning and yearling weights; as well as carcass traits like loin eye depth and parasite resistance.

"Parasites are a significant production problem," says Andries. "There's real room for improvement here." NSIP provides an EBV for fecal egg count, a statistical genetic predictor of an animal's resistance to infestation.

Growing Goats and the Industry

Weight and daily gain can be up to 40 percent heritable, making accurate data-based predictions significant factors in breeding decisions when meat goats are sold per pound per head.

"It you can improve the weaning weight and number of animals weaned, you've made each doe more efficient," says Andries. He says his flock has seen an increase of weaning weight and number of kids weaned per doe since selecting for EBVs.

He says there are those who avoid multiple births in favor of

larger kids. “But if you wean more kids, you’ll wean more total pounds. That single kid is heavier, but not twice as heavy.”

The heritability of fertility and number born are more difficult to quantify because data is kept categorically ((pregnant or open or 1, 2, or 3 kids born) rather than as a single trait. Still number of kids born can be 15 percent or more heritable.

Many economically important traits are influenced by environmental factors, limiting heritability to 30 percent or less. And Andries says goat performance data is further complicated by a simple lack of data, particularly in the meat goat sector. (Dairy goat production keeps data specific to milk production.)

Because of that lack of information, sheep data is often applied to goats. “Until the goat industry starts collecting and utilizing data, we will continue to have these issues of sheep and cattle data being applied resulting in a decrease in our overall knowledge of the differences between the species,” says Andries.

The issue of goats having their own data is one key reason for more goat producers to enter programs like NSIP, according to Andries, as is increased accuracy of available data. More U.S. producers entering the program means they can rely more on U.S. data instead of Australian, further decreasing the statistical effects of environmental factors.

That has benefits for both the commercial and purebred industries.

“For the purebred breeder, it means an increase in the value of sales,” says Andries. “It will enable more sales at higher value when animals come with EBVs that identify progeny potential.”

For the commercial producer, using breeding stock chosen for quantified results means more herd productivity, and the economic benefits that come with it.

And that’s a benefit to overall industry.

The number of goat producers throughout the U.S. has held steady, even increased in the past few years, despite herd reductions in the Southwest due to drought.

Consumer demand continues to increase. “Demand is not going to go down,” adds Andries. Fifty percent of goat meat consumed in the U.S. is imported. “There will be continued demand for domestic goat meat - if we can produce it.”

He says it is important for producers to not become distracted by encouraging market conditions. “All too often they’re willing to look at options when profits are tight, but when they’re making money, it’s easy to say ‘why make the extra effort?’”

“But now is exactly the time to focus on improvement,” he continues. “It’s time to accept the challenges of getting more efficient and making long term progress, so we can continue to improve and survive.”

by Terri Queck-Matzie for NSIP