

## **PRESS RELEASE**

For more information contact:

Christopher Schauer  
701-567-5374  
[chris\\_schauer@yahoo.com](mailto:chris_schauer@yahoo.com)

Brett Pharo  
231-322-2017  
[brettpharo@gmail.com](mailto:brettpharo@gmail.com)

### **Polypay Study Highlights Genetic Solution to Parasite Problem**

The American Polypay Sheep Association is wrapping up a three-year project that could ultimately lead to enhanced parasite resistance for the breed.

Funded by the American Sheep Industry's Let's Grow Initiative, the study uses the National Sheep Improvement Program's system of Estimated Breeding Values, or EBVs, in looking to quantitative genetics for a solution to a key sheep production problem.

With more rams genetically disposed to parasite resistance, producers will hopefully be able to select for the trait when making breeding decisions, reducing the need for costly and increasingly ineffective deworming treatments.

Brett Pharo of Back Acre Farm in Rapid City, Michigan, and president of the American Polypay Sheep Association, has relied on genetic selection to meet his customers' needs and keep parasites under control in his own flocks for more than a decade.

"My commercial customers are looking closely at FEC (fecal egg count) EBVs when buying their breeding stock," says Pharo. "They know it will save them money, time and stress on the animals. We know parasite resistance is a highly heritable trait. It will help them, and the entire industry, if we can identify the dam and sire blood lines with genetic parasite resistance."

Thus, in order to increase the database and identify parasite resistant genetic lines, the project began in 2016 with three main goals:

- Increase the number of Polypay sheep with FEC EBVs
- Increase the DNA database on Polypay sires with FEC EBVs
- Increase the number of commercial rams with FEC EBVs available to commercial operations across the U.S.

The APSA set out to increase the number of FEC data submissions from fewer than 200 from two or three producers to 3,000 from more than 10 producers over the course of the three-year study. By the end of the study, FEC data was collected on 2,009 lambs from 15 producers, according to Christopher Schauer, director of the North Dakota State University Hettinger Research Extension Center and Polypay breeder.

"We didn't quite meet our goal in terms of total number of lambs with submitted data, but we set very aggressive goals," says Schauer. "Overall, we saw very positive outcomes. We had more than the targeted number of producers participate, and increased the breadth of flocks using EBVs. We gained awareness of the parasite problem and the current technology available to attack it. On an annual basis, Polypay producers have increased offspring with FEC EBV's by 35 percent."

"This project not only increased the volume of data in the analysis program, it was done in a very meaningful way," says Rusty Burgett, NSIP Program Director. "Increasing the number of animals with

performance data for a given trait and known pedigrees helps the analysis determine what differences in performance are due to genetics vs. what is an environmental difference. At the end of the day, that is the main goal in selecting breeding animals and using NSIP; differentiating what differences in performance are due to genetics vs. the environment, and finding which individuals will pass on the genetics for healthy lambs with increased productivity.”

Parasites are a particular concern in the Eastern states, where warm, humid weather exasperates the problem. For many producers, the Katahdin breed has been a solution. “Katahdins were developed in southern climates and evolved with worms present, so they have developed an innate resistance,” explains Schauer, “while most Polypays are raised in the cool, dry climates.”

But for the wool producer, hair sheep are not the answer. Those producers are looking to identified genetic lines of Polypays with parasite resistance to attack the problem that is likely to increase as producers increasingly rely on grazing marginal lands.

“In our flock we have rams for sale with a range of parasite resistance (PWEC) EBV's,” says Pharo. “It's harder to sell the rams into our area with poorer PWEC EBV's, and it should be.”

“Sale prices for rams at the Eastern NSIP Sale, held annually in Wooster, Ohio, really reflect how important known genetics for parasite resistance are to the commercial breeders,” says Burgett. “Rams with proven EBVs for parasite resistance averaged \$180 per head more at the 2018 sale than their counterparts without that data. The buyers clearly saw value in knowing what their genetic potential was for parasite resistance.”

### **More Research Ahead**

In addition to FEC data, blood cards were collected on all of the sires for potential future genetic analysis. “We hope to eventually identify the genetic marker for what we know is a heritable trait,” says Schauer. “This will provide us with an incredible information source down the road.” Others in the industry have expressed interest in using the samples for genetic research on other heritable traits as well.

Submitting the blood cards along with fecal egg samples was one of the requirements of study participation. The cards are stored at the NDSU Hettinger Research Extension Center until funding allows for future research.

“We haven't explored any funding sources yet,” says Pharo, “but we want to continue to collect as many cards as possible so we have enough data available when there are opportunities to pursue.”

Schauer lauds the APSA for taking the lead in tackling the parasite problem and following databased genetic improvement into the future. “The Polypay breed is not unique, but its breeders are,” says Schauer. “They put an emphasis on this issue as a united group, and are better for trying.” Most U.S. breeds have parasite resistant genetic lines that have yet to be identified and emphasized. “We've opened the conversation now. So, now, what else can we look at? What new trends and directions should we be exploring? This project has given us a sense of unified mission.”

“That's the purpose of having a breed association,” adds Pharo, “to do positive things for people and help build not just the breed, but the industry as a whole. We want to thank all those producers who took the time and effort to turn in cards and submit data. And we certainly want to thank ASI and the Let's Grow Program for backing the effort. The trend for data-driven industry improvement is making a difference.”