

Fall 2019

Tomorrow's Sheep Today

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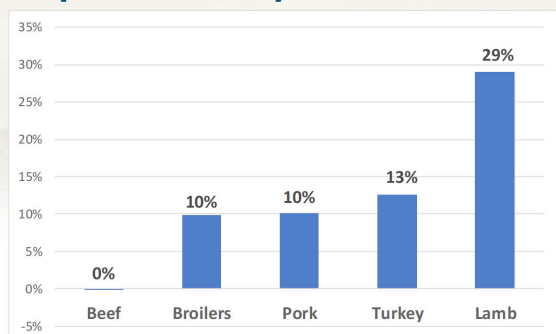


## View from the Great Lakes State

Brett Pharo, APSA President

What a great time to be involved in the sheep industry, and in the Polypay breed in particular! From producers to consumers, and processors to researchers, there is a revival of interest in sheep, it seems. The American sheep industry went into freefall following WWII, when many servicemen were fed poor mutton overseas. It has never recovered, *but* millennials, who comprise the second largest generation of Americans, are rediscovering what an excellent meal choice lamb is, as is indicated in this graph.

## Per Cap Growth, by Meat, 2011-2017



Source: The ERS Food Availability (Per Capita) Data System

American Lamb Summit

We all realize that a nearly 30% rise in per capita

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consumption of lamb still leaves us far short of the pounds eaten when compared to beef, poultry, or pork, but it is a significant gain for our industry. Most of that increased demand is being met through imports. It is up to us to ramp up our production to match the consumer's increased demand for quality and quantity. This challenge is an opportunity for the Polypay breed, which was created for the purpose of improving the production of the commercial industry.

One of the key needs of the sheep industry put forward in the Industry Road Map is the need to adopt the use of quantifiable genetic evaluation. This is being done through NSIP as the industry is finally realizing the value of quantifiable genetic comparison. Again here, the Polypay breed leads the way. We were the first breed, many years ago, to request cross-flock evaluations, and today I believe we may be the only breed that has most of our registered lambs coming from NSIP flocks. The value of these numbers is being recognized across the country in many breeds, including Polypay.

With the wrapping up of the Leading Edge Project, and as data is still being gathered and studied, it clearly showed that even in a large commercial range operation, the results matched the expectations predicted by the EBV's very closely. Even though that particular test, which ran from pre-breeding through slaughter, involved a terminal breed, it did demonstrate the efficacy of EBV's in predicting results. Good news, indeed, as the place for that tool in the selection toolbox is solidified.

At a relatively recent teleconference meeting of the Genetic Stakeholder's Committee of ASI, a question was asked as to what are needs that we need to look at addressing genetically. From Texas came the response that, as it had gotten very wet lately, parasites were a serious problem, especially with our limited availability of anthelmintics in America. Well, again, what is the first wool breed to work on developing genetic resistance to parasites? Polypay, of course.

Likely the next big advances in the sheep industry will be through genomics. That seems to be a topic everyone is talking about and research is moving forward. Genomic research requires a genomic data bank, correlated to a phenomic database. Here again, in conjunction with the parasite resistance project, we see Polypay breeders providing DNA samples to be stored for future genomic research.

Speaking of research, you may remember that a little over a year ago the U.S. Sheep Experiment Sta-

tion in Idaho had me fly out to visit about reinvigorating their work with Polypays. As Bret Taylor shared with us at our annual membership meeting, that station will be ramping up their work with Polypays. He continues to promote Polypays as an important piece that could be added to most western flocks. In addition, the U.S. Meat Animal Research Center in Nebraska is greatly expanding their Polypay flock and beginning some very promising research with Polypays. If you didn't get a chance to see their request for sheep, you can find it elsewhere in this newsletter. With both major government funded research facilities ramping up research with Polypays, these are exciting times, indeed.

As we continue to move forward, we need to keep in mind the bigger picture. As a seedstock organization, our job is to serve the larger commercial industry. The use of quantifiable genetic evaluation through NSIP is an important tool for the industry, but we need to remember that there are many important traits that we don't have EBV's for, and yet must not be ignored. We don't have an EBV for accelerated/out-of-season lambing, though it looks like the USMARC will be working on that. Few things affect the profitability of commercial lamb production more than longevity of ewes. We don't have an EBV for that. These and things like udder conformation, feet/leg conformation, gut capacity, hardiness, etc. remain very important to the commercial producers, and so should remain very important for us as seedstock producers of a maternal breed to pay attention to, and select for, in addition to the traits we do have EBV's for.

Demand is high for Polypays. Let's not rest on our laurels, but continue to show that Polypays remain *"Tomorrow's Sheep Today."*



*A couple rams from the 2019 lineup waiting for the start of the season.*

# Calling all Polypay breeders -

Holly Neaton, DVM

Have you ever had Polypay lambs born with a deformed neck or spine? Lambs born with these signs have been reported over the past 10 years or so. Often called “rhino” lambs, they have varying degrees of a short, downward curved neck (cervical vertebrae), often a curvature of the spine and sometimes short, stubby ears. In a mild case the lambs are able to stand but unable to nurse due to the inability to lift their head. In a severe presentation the lamb is unable to stand and the skull is domed. They are usually born alive.

This is not to be confused with the lambs we see affected by Cache Valley Virus in late fall and early winter. CVV lambs often have limbs and spine locked into unnatural bends (arthrogryposis). This condition is caused by a virus carried by a mosquito that bites the dam in early-mid pregnancy.

A genetic connection to these “rhino” lambs may be possible. A similar condition has been seen in Suffolk sheep – Spider Lamb Syndrome - for which a blood test can be used to screen animals for carriers.

If we collect enough samples of good quality and history to match we may find a geneticist to help find an answer. This project would be driven by the breed association if we wish to investigate.

If you have any of these lambs born this winter the success of identifying any genetic connection depends on the quality of the samples collected and recording of the data. We also must define the deformity so the following steps must be followed:

Take several pictures, record dam and sire, birth date and gender of lamb and send a copy of this to me at [hjneaton@gmail.com](mailto:hjneaton@gmail.com). IF the deformity qualifies as a subject (this may include an onsite veterinarian’s opinion) the steps for collecting samples will probably be as follows:

1. Cut off 1” of the affected lamb’s tail and place it in a freezer baggie with ¼ cup of salt. Label the bag well with “Rhino Lamb”, date, gender, dam and sire numbers. Record if the tail was frozen prior to collection.
2. At the same time 1” of tail should also be taken from an unaffected lamb in the following order of preference and kept in a separate “Normal Lamb” bag with the same information. (NOTE: you may wait until you dock the tail of the surviving lambs. Collect the tail sample after banding or hot-docking)
  - a. An unaffected full sibling (fraternal twin or triplet) of same gender from same dam and sire. Both siblings if triplets present.
  - b. An unaffected full sibling (fraternal twin or triplet) of same gender from same dam and multiple sires if used. Both siblings if triplets present.
  - c. An unaffected full sibling (fraternal twin or triplet) of different gender from same dam and sire AND another lamb of same age and gender born from the same ram.
  - d. If no littermate is available please find another lamb the same age and same gender born from the same ram.

Ruling out phenotype based on the sex of the lamb is important so collecting sample from an unaffected lamb of the same gender is desirable.

You may put both well labeled bags of samples into one larger bag to keep together while storing in the freezer. It is crucial to keep the samples together for the study.

It would be desirable to also collect a sample of whole blood in a plastic purple-topped EDTA tube from each lamb along with the tail samples. These labeled tubes can be kept in the freezer along with the tail samples.

Please contact Holly Neaton DVM 952-240-2192 [hjneaton@gmail.com](mailto:hjneaton@gmail.com) with any questions or comments. Once we collect a group of these samples, I will coordinate the project.



# USMARC

The U.S. Meat Animal Research Center (Clay Center, NE) is in the process of expanding their Polypay ewe flock and is looking for NSIP producers interested in providing rams to begin a national sire referencing program. Going forward, we plan to phenotype progeny for expensive or otherwise difficult to measure traits including, but not limited to: out-of-season and accelerated lambing potential, internal parasite resistance under natural or artificial exposure, lamb survival, ewe longevity and susceptibility to common diseases such as mastitis, lamb feed efficiency and carcass characteristics. Such work will improve the accuracy of existing EBV while enabling us to continue to develop new EBV of economic importance to the breed. Additionally, it will help lay the foundation for future development of genomic selection tools. The relative magnitude of a ram's EBV is not the primary goal here, we are firstly looking for influential, mature rams that have previously sired lambs in multiple flocks. We will have ewe flocks lambing in February and October, so rams can be sourced throughout the year. If interested please contact Dr. Tom Murphy at (402)762-4177 or [tom.murphy@usda.gov](mailto:tom.murphy@usda.gov)

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## Five APSA Members Playing A Game

Glen Jones

During the summer educational events sponsored by the United Suffolk Sheep Assn. in Spencer, Iowa, Dr. Ronald Lewis challenged attending breeders to try his Sheep Breeding Simulation game along with his Animal Science students at the University of Nebraska. Dr. Lewis is a committee chairman of the American Sheep Industry genetic stakeholders committee as well as serving in an advisory capacity with The National Sheep Improvement Program. Eight teams of adults took the challenge. Three of those teams include APSA members. One team is Dr. John Carlson & Mark VanRoekel, another is Glen Jones & Jerry Sorensen, and a third includes APSA member Rusty Burgett along with Katahdin breeder Lynn Fahrmeier.

The game challenges teams to improve the quality of their terminal sire seed stock flock focusing on growth. They are also challenged to market seed stock or semen, and eliminate the spider carriers from the flock, while at the same time making more profit than the other teams. The game is now in the second week of play with each week representing one year in the life of the flock. It will continue for 4 more weeks. Teams have access to production data and can use either natural mating from within their flock or by purchasing rams from other teams. They also have access to AI sires that have been offered for use by other teams at a cost, of course.

So far the simulation has been a lot of fun, very educational, and has spurred many text messages among the competitors. Our team had great results from our first breeding cycle, including a ram lamb that we are hoping we can sell semen from for the next breeding season. We were able to substantially raise weaning weights, breeding values, and had no spider lambs born. Hopefully we can continue this success. I told Jerry that this seemed much easier than improving my Polypay flock. If this opportunity is offered again next semester, I would invite you to put together a team of two and give it a try. I think you would enjoy it and learn from the simulation as well as the other participants.

