

## NSIP Meeting

Thursday – September 22, 2022

7 p.m. CST

Minutes submitted by Lisa Paris Weeks

Attendees: Matt Benz, Rusty Burgett, Zach Meinders, Lynn Fahrmeier, Cody Hiemke, Tom Hodgman, Carol Heupel, Ron Lewis, Jim Morgan, Brett Pharo, Brenda Reau, Reid Redden, Bill Shultz, Jake Thorne, Todd Taylor, Lisa Weeks

Agenda:

- Lynn Fahrmeier called meeting to order.
- Secretary Report
  - Bill Shultz moved to accept the July minutes as submitted, seconded by Brenda Reau. Motion passed.
- Treasurer Report
  - Presented by Bill Shultz (report attached)
  - Bill proposed restructuring the enrollment fees to have a minimum fee for flocks less than X animals. Lynn directed this to the executive committee to work on some models and present to the board for review.
  - Rusty proposed earmarking a percentage of the data fees and monies from DNA submissions toward Future Technical Development. The Board was in favor of creating this accrual. Matt Benz moved in favor of the accrual, Jim Morgan seconded the motion. Motion passed. The percentage of the accrual was not part of the motion.
  - The Board directed Rusty and Bill to work on getting resolution to the \$5500 in accounts receivable.
- Program Director Report
  - Presented by Rusty Burgett (report attached)
  - TSU submissions are batched on a monthly basis due to the volume. Currently 10,700 TSU's have been submitted.
- Technical Committee
  - Presented by Ron Lewis (report attached)
  - Once the testing protocol for the genetic conditions has been completed, results for all animals with samples in the NSIP database will have the five genetic conditions reported back under the new protocol. Included in that report will be an appendix interpreting the test results for each genetic condition.
- Sale Committee Report
  - Presented by Matt Benz (report attached)
    - The 2022 NSIP sales were very successful with the new platforms introduced. Cody Hiemke suggested we consider increasing the 0.5% commission NSIP retains. Matt Benz countered this is a service we (NSIP) are providing to our membership. The sale committee will review the suggestion.
- Lamb Summit
  - Brenda Reau attended the Lamb Summit and reported there was a lot of interest in NSIP and using EBV's to increase the bottom line.
- Fine Wool Index

- Per Rusty, the implementation cost is expected to be ~\$3000.
- We, NSIP, will need to be clear on the limitations of the Index.
- Matt Benz moved to adopt the index, seconded by Brett Pharo. Motion passed.
- Nominating Committee for 2023 Board
  - Lisa Weeks
  - Allan Culham
  - Todd Taylor
- Convention Update (Rusty)
  - Partnering again with the Genetic Stakeholders Committee, NSIP, and Sheep Genetics USA.
  - There will be six hours scheduled for speakers and presentations.
- New Business
  - Dr. Scott Greiner is requesting \$300 in monetary support to purchase the trophies for NSIP classes for the Livestock Sheep Judging contest at the NAILE.
  - Brenda Reau moved to give \$300 for this program, seconded by Jim Morgan. Motion passed.
  - Curt Stanley updated the group on the
- Next Meeting will be Thursday, November 10 @ 7 p.m. CST.
  - Carole Heupel moved to adjourn, seconded by Cody Hiemke. Motion passed.

### **NSIP Treasurer's Report**

**September 21, 2022**

**Bill Shultz**

NSIP fiscal year ends September 30<sup>th</sup> but 2022-year end financials will be far from being complete. There are several end-of-year invoices that will need to be accounted for and last-minute deposits made as well as establishing an up-to-date Accounts Receivable ledger. Normally it is into late October until Larry Kincaid at ASI has all the financial materials he needs to finish the year and send us 2022's final report.

August financials show that we are still on budget and our financial growth is positive. A full report and analysis will be made as soon as we have the appropriate year-end information.

I am attaching a preliminary 2023 budget with a final budget being presented to the group in late October/early November. Please take the time to look it over and give me feed back on where changes are appropriate.

I would also like to suggest a couple of changes for 2022.

First is an increase of the basic membership fee to either \$150 or \$200 which includes the 1<sup>st</sup> 20 ewes or 40 ewes respectively, currently basic membership is \$100 with all ewes charged at \$2.50. Over the past year, even though our total membership has increased total membership revenue has remained close to 2021 levels due to average individual membership slipping by around \$10. (\$243. vs \$255.). In 2022 about twenty percent of our members paid less than \$150 and about another twenty percent paid less than \$200. Increasing the basic membership fee would increase our overall average by \$5 to \$10.

Secondly, I would like for NSIP to move towards a goal establishing a \$100,000 contingency fund. Currently NSIP has nearly \$65,000 in the bank with the balance of our \$77,000 Total Equity made up of Accounts Receivables.

**2023 preliminary NSIP Budget**

<b>Income</b>	<b>2021</b>	<b>2022 estimated</b>	<b>2023 preliminary budget</b>
Enrollment	\$ 67,000.00	\$ 57,500.00	\$ 62,500.00
Data fees net	\$ 7,580.00	\$ 7,000.00	\$ 8,000.00
DNA Net	\$ 7,300.00	\$ 7,000.00	\$ 9,800.00
Sheep sales	\$ 5,400.00	\$ 8,000.00	\$ 8,000.00
Sheep Genetics USA/A	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
			<b><u>\$ 98,300.00</u></b>

<b>Expenses</b>	<b>2021</b>	<b>2022 estimated</b>	<b>2023 preliminary budget</b>
Rusty	\$ 54,000.00	\$ 55,620.00	\$ 57,600.00
Insurance	\$ 5,700.00	\$ 5,232.00	\$ 5,500.00
Office/Travel	\$ 1,000.00	\$ 1,000.00	\$ 1,500.00
Credit Card/wire	\$ 1,200.00	\$ 1,400.00	\$ 1,800.00
Bad Debt write-offs	\$ 2,528.00	\$ 100.00	\$ 5,500.00
Sheep Sales	\$ 400.00	\$ 2,000.00	\$ 1,000.00
Promotion & Advertising		\$ 400.00	\$ 3,000.00
Ron's Technical Contra	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
			<b><u>\$ 85,900.00</u></b>

**Assumptions/footnotes for 2023 budget**

Estimated 2023 paid members 250 @ \$250  
 Estimated 2023 Data; 20,000 records ...net to NSIP \$.40 per record  
 DNA 2023; estimated 2,800 processed at \$3.50 net to NSIP  
 Ron's \$10,000 Technical contract paid by ASI/SGUSA  
 3.5% "cost of living" increase in Rusty's contract

NSIP Director's Report  
September 21, 2022

Since our last meeting in July, things have been busy as usual. I attended the Center of the Nation NSIP sale and hosted the farm tour and educational sessions which were standing-room only! I also helped present at the ALB Lamb Summit in Michigan and NSIP was very well represented at that meeting.

I met with Peta Bradley, the new manager of SheepGenetics on July 18 via Zoom. We had a productive meeting discussing our input on the service agreement contract, beginning to schedule the data input updates for NSIP, timing of billing information from LambPlan and the Dorper/White Dorper data evaluations. I have yet to hear back from her so I will follow up in the coming weeks.

With increased demand for genotyping because of Ron's GEMS project, I have been batching samples on a monthly basis. As genotyping increases in other breeds, we'll need to conduct more education/outreach on the submission process in order to efficiently handle the volume of samples.

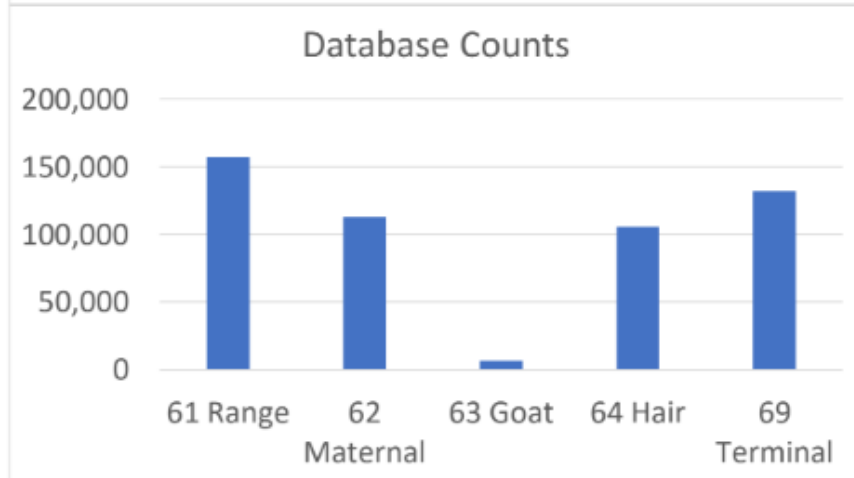
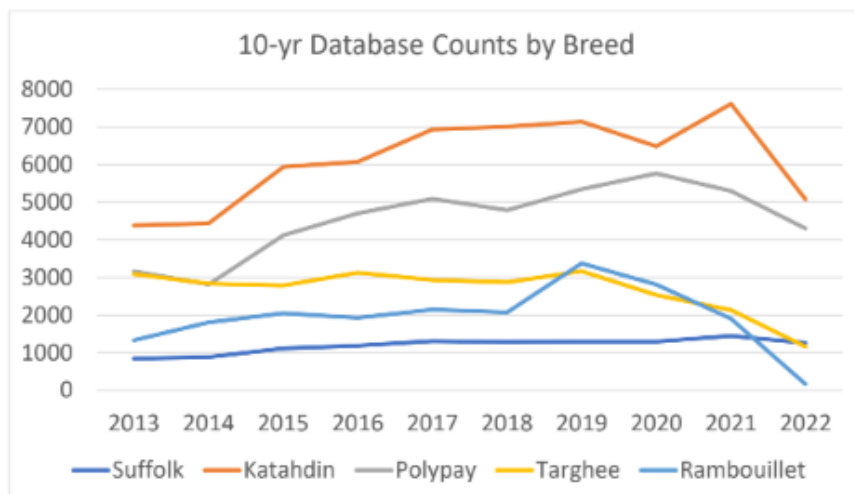
Breed	# Genotypes Completed
White Dorper	56
Black Welsh	103
Texel	10
Suffolk	329
Rambouillet	912
Polypay	363
Katahdin	8,349
Total	10,122

As we close out FY22, I will work with Bill and Larry to finalize the NSIP books for the year. I just received the invoicing counts from MLA for the month of May. June and July have already been invoiced so I want to invoice for May, August and September before close out. I can then finalize the counts of number of active flocks, how many animals were submitted per breed, etc. for FY22. I provided some graphs below with some of that data from the database because that is more current than the billing information due to the lag in receiving it from AU.

Upcoming, I will be traveling to the National Ram Sale in Heber City, UT. I also plan to host educational sessions on the genomic submission process, basic NSIP & Pedigree Master, interpreting EBV data and I've been working on material about accuracy of EBVs. I'll also work with ASI's Genetic Stakeholders and Sheep Genetics USA to help plan the genetics symposium at ASI convention in January.

Number of Active Flocks and Lambs with Full-Data Recording		
Breed	# Flocks	# Lambs Submitted '21-'22
Dorper/White Dorper	9	560
Cheviots	1	3
Black Welsh Mountain	1	104
Goats	2	92
Columbia	2	101
Dorset	14	1,485
Fin	13	125
Hampshire	10	1,036
Ile de France	2	905
Katahdin	86	12,693
Leicester	2	32
Lincoln	1	8
Polypay	59	9,595
Rambouillet	14	2,062
Romney/Romeldale	1	13
Royal White	2	202
SAMM	4	1,090
Shropshire	3	258
St. Croix	1	71
Suffolk	26	2,697
Targhee	24	3,284
Texel	5	266
Composite Terminal	1	23
<b>Total</b>	<b>273</b>	<b>36,705</b>

Only includes animals with full pedigree, phenotypes and genetic connections for the main traits. Data current as of August 2022



**NSIP Technical Advisory Committee Report**  
Sept 2022

**Reporting genetic conditions**

One of opportunities in collecting genomic information with the Neogen GeneSeek Genomic Profiler (GGP) 50k array through NSIP is to define animals' genotypes for several genetic conditions. As mentioned in an earlier Technical Advisory Committee report, with the GGP platform those genetic condition are:

- Ovine Progressive Pneumonia (OPP) susceptibility (*TMEM154* gene)
- Scrapie susceptibility (codons 112, 136, 141, 154, and 171)
- Myostatin
- Callipyge
- Booroola FecB

To ensure their reliability, it is important to validate the genotype test using DNA samples on animals with known genotypes. With the help of Dr. Mike Heaton and Dr. Brad Freking at the USDA ARS U.S. Meat Animal Research Center, we submitted samples representing each of these conditions to the Neogen Genomics lab in Lincoln, NE, for testing. The samples were submitted blindly to ensure an impartial test.

The results of that genotype testing were received very recently. So far, only those results for the *TMEM154* gene have been evaluated. Five of the samples represented combination of the four common variants of this gene ("1", "2", "3", and "4"), plus one of the rarer variants ("9"). Interpretations of these variants are supplied as an Appendix. Vially, the genotype test results correctly aligned with the known genotypes on these five samples.

Once the results of this testing protocol have been completed, the plan is to generate results for the five genetic conditions for all animals with samples in the NSIP genomic database.

Ron Lewis  
NSIP Technical Advisory Committee Chair  
Sept 22, 2022



## Appendix

### Interpreting test results from genetic testing for ovine progressive pneumonia (OPP) virus susceptibility for NSIP

Different versions of the *TMEM154* gene, called haplotypes, affect the susceptibility of sheep to infection with ovine progressive pneumonia (OPP) virus. There are more than 10 different haplotypes of *TMEM154* known. The four most common forms of *TMEM154* are haplotypes numbered “1”, “2”, “3” and “4” and account for more than 97% of those present in US sheep. A lamb inherits two copies of *TMEM154* haplotypes, one from its sire, and one from its dam. Together, the two haplotypes comprise an animal’s *TMEM154* diplotype. For example, a sheep with diplotype “1,1” has two copies of haplotype “1”, while a sheep with diplotype “1,3” has one copy of haplotype “1” and one copy of haplotype “3”.

In controlled infection research experiments spanning more than 5 years at the U.S. Meat Animal Research Center (USMARC), results show that ewes with one or two copies of haplotypes “2” or “3” are *five to 10 times more likely to become infected* than sheep with two copies of haplotype “1”. Therefore, any ewes carrying haplotypes “2” or “3” are at the greatest risk for infection. Ongoing studies at US Meat Animal Research Center (USMARC) suggest that diplotypes “1,1”, “1,4”, and “4,4” are roughly equivalent in their association with reduced susceptibility to infection. Although many other rare diplotypes have not yet been carefully tested, no diplotypes are known to offer 100% resistance to OPP infection for every animal in the flock upon high levels of OPP virus exposure. The natural function of *TMEM154* in sheep is not yet known and ewes with two copies of haplotype “4” are predicted to have no functional copies of this gene. For this reason, the common diplotype “1,1” is preferred over “1,4” and “4,4” when all other things are equal.

While haplotypes other than those numbered “1” through “4” are present in US sheep, they are predicted to be at low frequency in most populations. Furthermore, less is known about the relative susceptibility of these rare haplotypes (numbered “6” or “9” to “15”), but some general predictions can be made based on their sequence compared to the more common variants. For example, we expect the “9” haplotype to be highly susceptible based on its similarity with the highly susceptible “3” haplotype. Some preliminary data at USMARC is consistent with this notion. Likewise, the “10” haplotype would be predicted to be less susceptible because it appears to descend from the “1” haplotype. The haplotype “6” variant is also expected to be less susceptible since it encodes a truncation of *TMEM154* predicted to inactivate the protein. That said, research has not been conducted on these low frequency haplotypes to establish concrete guidelines for their use.

A reasonable genetic strategy for reducing the risk of OPP virus infection is to increase the frequency of sires and dams with haplotypes “1” and “4” while reducing the frequency of those with haplotypes “2” and “3”. This would be part of an overall management strategy aimed at reducing OPP prevalence in an infected flock or reducing risk of re-infection in an OPP-free flock.

## NSIP Sale Committee Report

9/22/22

The NSIP sales can be called a success. Obviously, the lower lamb prices towards the end of the sale season negatively affected the prices of ewes in the September sale, but there was still a nice value added bonus.

An abbreviated sale report follows:

January replacement ewe sale gross - \$138,190

June replacement ewe sale gross - \$141,010

September replacement ewe sale gross - \$138,190

NSIP Online sales gross - \$58,800

Center of the Nation gross - \$175,000

Total gross - \$651,190

We don't have all of the entry fees and commission checks in yet.

The manager of the CNS was supposed to collect the entry fees and remit them to NSIP. That didn't happen. Rusty is sending out invoices.

Willoughby hasn't sent the check for the September sale yet.

I think we should continue the NSIP Influenced Replacement Ewes sales, with similar dates as this year.

The NSIP Online sales could be on the same day.

The Center of the Nation sale continues to be a bellwether sale for the industry.

Matt Benz