

Let's Grow Program Round 5 – Funded Projects, 2017

Genetic Improvements in the Sheep Dairy Industry: Milk production, Lamb production, and wool production

AWARDED TO:

Dairy Sheep Association of North America (DSANA)

SCOPE:

Nationwide

STATUS:

Complete.

FINAL REPORT:

Let's Grow (Round 5) Project Performance Report: Final Report

Dairy Sheep Association of North America

Laurel Kieffer, Project Manager

A. A comparison of timeline, tasks and objectives outlined in the original proposal as compared to the actual accomplishments.

The report submitted in September 2017 addressed tasks and objectives accomplished through September.

Timeline	Action Steps	Evaluative Measures	Accomplishments
October 2017	Email contacts between workgroup members. Finalize Summit agenda. Summit materials final edit, printed for symposium. Marketing of summit to members and interested parties.	Materials completed and readied. Registrations received. Symposium workshop's session attendance goals realized.	It was determined that there not enough resources nor sufficient information and updates to merit a full summit. A 1-hour session was scheduled to be held during the symposium, open to all attendees.
November December 2017	Dairy Sheep Genetics Seminar to discuss the work plan developed by the planning group. Workgroup and DSANA Board meet during symposium to discuss impact and outcome of	A minimum of 25 dairy sheep producers attend the seminar. A minimum of 50% of those in attendance agree to participate	Approximately 75 people attended the genetics improvement session including the Canadian organizations currently developing and offering the estimated breeding value calculation services.

Timeline	Action Steps	Evaluative Measures	Accomplishments
	seminar, affirm direction determined at seminar.	in the 2018 pilot project.	10 farms (6 CA, 4 USA) indicated interest in participating in the project. A three-tiered flock participation scheme (attached) was proposed at the symposium. Goals of the project are to be inclusive yet continually move towards meeting International Committee for Animal Recording (ICAR) standards.
Nov. -Dec 2017	Teleconference evaluation of Summit. Determine next steps in process. Identify and begin procurement of next phase resources for project.	2018 plan of action affirmed. Resources identified to continue project implementation.	DSANA received a \$20,000 NSIIC grant to continue the genetic improvement work. Grant period: January 2018 – June 2019.
Jan-March	Continue progress in forwarding project. Activities to be determined by work plan. Strategies developed for next phase of project. Remaining funds to be spent paying project manager to continue and transition ASI Genetics Improvement work-plan to the NSIIC project by beginning to implement the 3-tier project in collaboration with GenOvis under direction of the DSANA board of directors and Genetics Improvement Workgroup	Initial funding secured. Minimum of 12 farms to begin data collection. Data collection pilot project begins. Farms are identified, milk production data is collected. Genovis begins genetic analysis of USA data.	Project continued in January with project manager proposing a project plan of action for the genetics improvement project. Weekly conversations began with GenOvis (Canada) to determine enrollment and flock inventory procedures. Draft enrollment and flock inventory forms have been developed. In February, conversations began with DHIA-National to develop USA protocols for milk component testing and evaluation. A minimum of 7 USA farms have committed to enrollment for the first year. Four of them indicated interest in the tier two level of involvement.

Timeline	Action Steps	Evaluative Measures	Accomplishments
March	Project successes/shortcomings assessed and noted. Report developed and submitted to ASI.	Project analysis and report completed and submitted.	Final Report completed and submitted in April 2018.

B. If the stated objectives in your original proposal were met, give a summary of your experience in meeting the stated objectives. If the objectives were not met, then give the reasons. Include problems, delays, or adverse conditions which affected the outcome. We are interested in knowing what you learned from your experience:

The process of developing a standardized system for collecting and evaluating data is very complex; more complex than what was anticipated. The current milk production testing works quite well for within flock analysis, but it unlikely to provide reliable across flock calculations of estimated breeding values. For example, some laboratories measure total protein while others measure pure protein. Cow dairy standards are predominately used for all components, lactation curves, etc. The sheep dairy industry is so small that laboratories and the milk recording and production calculation use cow-dairy equipment and standards exclusively and this is unlikely to change as it is very costly to recalculate the testing equipment for sheep. Working with ICAR and DHIA in addition to GenOvis (Canada) and Valacta (Canadian equivalent of DHIA) is helpful in attempting to standardize collection and analysis protocols so that, eventually, determining estimated breeding values across flocks in the USA, CA, as well as the United States of Mexico may be possible. Some of the considerations that were unknown before starting this process include the need to: align breed codes with the U.S. National Association of Animal Breeders (NAAB) and the Canadian Association of Animal Breeders (CAAB); establish meter and scale measurement standards; develop a unique animal identification system, establish uniform component testing protocols, research to establish the quotient needed to extrapolate actual sheep component values using cow component measures, and more. We may be a few years off before we actually have the ability to run EBV's across flocks with any kind of validity.

C. Be as specific as you can in giving any quantifiable results of the project (example: As a result of project XYZ we increased the number of pounds produced from 120,000 lbs to 200,000 lbs. Twelve additional producers from our region were added as clients to the plant and six more stores are carrying our product.)

A new workgroup was formed for the genetics improvement project consisting of DSANA members from the USA and CA. This group meets monthly, at minimum, to review the work being done and make recommendations. Quantifiable data may seem negligible at this time as most of the work being is about process, building relationships and systems, and developing protocols: agreement is in place with GenOvis (Canadian organization that calculates EBV's); enrollment forms are ready to send to participating pilot farms; conversation has begun with National ICAR and DHIA management and regional affiliates to develop sheep dairy milk production measurement standards; the project manager has received the dam/sire information from the Spooner dairy flock (this will be used as a resource for offspring analysis); a DSANA

newsletter was sent out informing the membership of the project and inviting members to join (2 new farms responded affirmatively).

D. Identify if the project is complete or ongoing and what you see as the next step.

This project is ongoing. \$20,000 in grant funds was received from NSIIC in 2018 to continue the work through June of 2019. Pressing next steps:

a. Implement the first tier of the three tier system for anyone interested in participating to keep the membership engaged while the more complicated components are established. The milk collection and measurement requirements for tier one will be minimal. Tier-one analysis will be of value to the individual producer but unlikely to have significantly reliable value across flocks.

b. Identify 3-5 flocks willing to work with the developing of national sheep dairy milk production evaluation and recording standards that will be accepted by DHIA and ICAR:

- i. Milk collection and recording protocols
- ii. Milk component research to establish accurate multipliers
- iii. Testing schedule standards
- iv. Establish the American Dairy Sheep as a recognized breed

c. Identify and develop a means to keep the project funded beyond grant support

E. A project summary suitable for posting on the “Let’s Grow” web site.

The Dairy Sheep Association of North America began a sheep dairy genetics improvement project in 2017 with the end goal to make reliable estimated breeding values accessible to sheep dairy producers throughout North America. A three-tiered system for beginning to collect dairy sheep production information was established. Tier one implementation will begin in 2018. Ongoing and future work includes establishing sheep dairy milk collection and measurement standards that will result in data that can be reliably used to calculate estimated breeding values and compare animals throughout North America.

Effect of postpartum meloxicam administration to twin-lambing ewes on ewe metabolic status and lamb growth

AWARDED TO:

Iowa State University

SCOPE:

Nationwide

SUMMARY:

Postpartum administration of meloxicam, a non-steroidal anti-inflammatory drug, has increased whole-lactation milk production in dairy cattle by approximately 10-11%. If postpartum meloxicam could increase milk production in ewes nursing twin lambs, it is likely that lamb growth would be enhanced due to increased availability of milk during the first 3-4 weeks of lactation. The objective of this study is to evaluate the effects of postpartum meloxicam administration on ewe health and lamb productivity.

STATUS:

In progress

Educational Programs for Beginning & Advanced Sheep Producers

AWARDED TO:

Kansas Sheep Association

SCOPE:

Kansas and surrounding states

SUMMARY:

We have seen a resurgence of sheep numbers and sheep producers in Kansas and we want to capitalize on this growth by providing timely educational seminars relating to sheep production. These programs will have break-out sessions geared to varying interest and experience levels. By providing different locations in Kansas and two times of the year we are hoping to allow people to attend when it fits their schedule. We are also hoping to attract producers from the surrounding states

STATUS:

In progress.

Enhancing Profitability Through Improved Business Practices

AWARDED TO:

Maine Sheep Breeders Association

SCOPE:

Maine and surrounding states

SUMMARY:

The Maine Sheep Breeders Association is partnering with University of Maine Cooperative Extension to present two workshops focusing on sheep production. One of the workshops will be the introduction to artificial insemination using the University of Maine's Icelandic sheep flock for those producers considering out-of-season breeding. Another workshop will be Sheep 101 and focus on herd health, feeding, and animal selection. Producers attending the Maine Fiber Frolic, the Maine Sheep Breeders Meeting & Wool Pool, Workshops, and Shearing School will be invited to join a producer group based on wool, meat, or dairy focus.

STATUS:

Completes

FINAL REPORT:

Maine Sheep Breeders Association
Let's Grow Report

Programs held:

The Maine Sheep Breeders Association (MSBA) conducted two Vaginal Artificial Insemination workshops on September 9th and September 30th in two locations with 24 participants. Dr. Jim Weber from University of Maine was the instructor in the workshops. We had participants from Maine, New York, and Massachusetts. The workshops had eleven participants on September 9th and twelve participants at the September 30th workshops. MSBA's only cost for the program was providing a meal for the participants.

MSBA co-sponsored the NSIP workshop in Wolfe's Neck on May 5, 2018. MSBA provided snacks and beverages for the program. Eight people signed up for the program.

MSBA has set up two producer groups that meet quarterly in Lisbon Falls and Bangor. The groups have been brainstorming different programs for the following year.

MSBA sponsored a Nutrition Presentation from Dr. Colt Knight on January 9, 2018 at the annual meeting in January.

Financial Quickbooks and Enterprise Budgets workshop was conducted on April 28, 2018. The Maine Sheep Breeders Association partnered with the University of Maine Cooperative Extension. Participants received a free QuickBooks program. Cost share was provided so the Maine Sheep Breeders only needed to provide one QuickBooks program and lunch for the program.

A parasite/FAMACHA workshop was held for Maine goat and sheep producers on May 26, 2018. The event was co-sponsored by the University of Maine. Dr. Colt Knight and Dr. James Weber taught participants the FAMACHA technique. Dr. James Weber also provided hands-on instruction in parasitology. Participants provided their own fecal samples from their animals for analysis. MSBA purchased FAMACHA cards for the participants.



Participants from the Financial Quick Books Workshop.



Project Title: Sheep and Herder Care, Health and Safety Field Pocket Guides (Spanish and English Translation)

AWARDED TO:

Mountain Plains Agricultural Association

SCOPE:

Intermountain west

SUMMARY:

Spanish educational resources for western range herders are important for continuous improvement of both lamb and wool production by educating the critical workforce that raise, care for, and handle flocks on a daily basis. The goal of this project is to develop three Spanish/English educational resources for herder and owner/manager use that focus on production practices typically found in western range flocks. Proposed field guide booklets are: 1) a field pocket guide about basic sheep care and management; 2) resource guide on herder safety in livestock handling, and camp care; and 3) translation and picture guide of common tools/equipment used on western range operations by sheep herders.

These weatherproof, pocketsize field guides will describe the best management practice in Spanish on one side and English on the back size to enhance herder understanding and communication with sheep owner/manager. The field booklets will be distributed to employers of Spanish speaking herders.

Possible distribution points include ASI, Mountain Plains Agricultural Service and Western Range Association.

STATUS:

Complete

FINAL REPORT:

Project Title: Sheep and Herder Care, Health and Safety Field Pocket Guides (Spanish and English Translation)

Project Leaders/Team: Team Members: Kelli Griffith, Sarah M. Smith, Jan Busboom, and Martin Maquivar

Organization Submitting: Mountain Plains Agricultural Association in collaboration with Washington State University

Report by: Sarah M. Smith, WSU Regional Extension Specialist

Need: The expansion of sheep farms is not only limited by economically viable production practices and markets; but expansion is also impacted by the availability of knowledgeable producers and a skilled workforce. The western U.S. has a diverse and bountiful agricultural

industry, which provides an excellent opportunity for the number of sheep produced in the region to expand. The opportunity for future expansion of lamb production and sheep operations can only be achieved and sustained by developing knowledgeable producers that can be profitable in their production systems. Educational outreach programs for sheep producers, stakeholders and the workforce need to support recruitment, education, training, and retention of quality individuals within all segments of the sheep and wool industry to enable them to increase the pounds of quality lamb and wool produced and marketed; ultimately increasing their profitable, sustainability and future growth of the industry.

Executive Summary of Proposal (a 3-4 sentence synopsis of the project):

Spanish educational resources for western range herders are important for continuous improvement of both lamb and wool production by educating the critical workforce that raise, care for, and handle flocks on a daily basis. The goal of this project is to develop three Spanish/English educational resources for herder and owner/manager use focused on production practices typically found in western range flocks. Proposed field guide booklets are: 1) a field pocket guide about basic sheep care and management; 2) resource guide on herder safety in livestock handling, and camp care; and 3) translation and picture guide of common tools/equipment used on western range operations by sheep herders. These weatherproof, pocket-size field guides will describe the best management practice in Spanish on one side and English on the back side to enhance herder understanding and communication with sheep owner/manager. The field booklets will be distributed to employers of Spanish speaking herders. Possible distribution points include ASI, Mountain Plains Agricultural Service and Western Range Association.

Action:

Basic Sheep Care and Management Field Guide For Herder. A survey was conducted, and results were compiled of sheep operations' managers/owners that use Spanish Herders (H2A) to determine necessary information to include in resource guide concerning sheep basics, care/handling, diseases, and toxic plants for sheep herders. This field guide is currently 50-60 pages is in draft form. The format for the guide has been completed by a professional designer and most of the text has been finalized.

Over 75% of the pictures have been identified and edited.

The delay on this manual was the result of lead author, Sarah M. Smith, not realizing her limited graphic design and formatting skills in the necessary software (Adobe InDesign) to design a high quality resource guide that not only is easy to read and follow, but hard copies can efficiently be printed from. A graphic design specialist was hired in late July to design the template for the *Basic Sheep Care and Management Field Guide for Herders*. This template will be used to develop the other resource guides and future pocket resource guides as identified. In addition, photo opportunities and non-copy right photos have been difficult to secure of all necessary colored pictures identified for the resource guide (especially various sheep diseases and some management practices; pictures for weeds and predators were purchased from an online picture database because of difficulty in securing color photos of various weeds/predators.). All pictures have been secured, except pictures for following section:

- *Grouping of rams*: Need pictures of rams fighting and tight grouping of rams
- *Footbath*: multiple pictures of foot bath from set-up to use.
- *Wool Blindness*: have two pictures but would like to secure picture of wool blind and correcting with hand shears and electric shears.
- *Castration*: have picture of banding method. Need picture of knife and teeth method.
- *Tail Docking*: have picture of banding. Need pictures of hot docker.
- *New Born Lamb Care*: Need picture of stripping teat, trimming navel and dipping navel in iodine.
- *Storage and Handling Medicine*: Need picture of medicine correctly stored in refrigerator and/or out of sunlight; needles and syringes correctly stored; and sharps container.
- *Biosecurity*: Need picture of mud cleaning of shows, proper disposal of dead animal, clean cloths, etc.
- *Common Animal Health Issues/Diseases*: Need picture of hypothermia, joint ill, broken leg, white muscle disease, coccidiosis, pneumonia, clostridial disease/death, water belly/urinary calculi, polio, rectal prolapse, failure to dilate, pizzle rot, swollen testicals, heat stress, OPP- Thin Ewe, grass tetany, fly strike, external parasites, and bottle jaw.

As lambing season approaches more of these pictures should be able to be obtained. Author will continue to finish the resource guide and make available to ASI and Mountain plains to publish in Electronic form or hard copy. Copy (PDF) is attached of current status of field guide. Current draft is with graph designer editing changes/additions and adding pictures to: sheep handling basics, signs of lambing, properly tipping sheep, trimming hooves, castration, tail docking, ear tagging, tubing baby lamb, vaccinations, wool care, shearing time preparation, dog basics, body condition, predators, toxic weeds, and some diseases. Resource will continue to be finished with funding from Washington State University. Additional funding will be secured to print 250 hard copies for distribution to sheep operations with Spanish speaking herders.

Herder Camp Maintenance Safety. A survey has been conducted and results have been compiled of sheep operations' managers/owners that use Spanish Herders (H2A) to determine necessary information to include in resource guide concerning camp maintenance and safety for sheep herders. Template for resource guide has been developed. Author(s) has not been able to start resource guide. Resources will continue to be developed with other funding opportunities. Resources will be made available to ASI Let's Grow Committee at completion for them to publish electronically or in hardcopy as they see best fit.

Herder Camp Maintenance Safety. A survey has been conducted and results have been compiled of Sheep operations' managers/owners that use Spanish Herders (H2A) to determine necessary information to include in resource guide concerning common tools and equipment used in sheep operations and herder camps. Template for resource guide has been developed. Author(s) has not been able to start resource guide.

Northern Plains Lamb Value Discovery Program

AWARDED TO:

North Dakota State University/University of Minnesota

SCOPE:

North Dakota, South Dakota, Minnesota

SUMMARY:

The opportunity for price discovery through enhanced value-based marketing options is in the near future. The timing of this proposal is critical as it offers the chance to connect the supply chain to true market value of sheep/lamb produced across the U.S. Inclusion of instrument grading to augment USDA Lamb Grading has been a delayed process, yet the potential and optimism of technology and pricing mechanisms that reward lean, muscular carcasses of a desired weight will reinforce value of sheep production management decisions in the future. Sheep producers in North Dakota, Minnesota, and South Dakota will be included for producer educational events, on-farm production management surveys, and inevitably, provide finished lambs that will represent a “gate-to-rail” focus for Northern Plains producers. Data and results will be disseminated to ND, MN, and SD producers and utilized for future economic analysis that defines an impact of production management decisions on lamb market value.

STATUS:

In progress.

U.S. Breed Associations and NSIP Collaboration: Forging a Relationship for the Future of Genetic Improvement

AWARDED TO:

National Sheep Improvement Program

SCOPE:

Nationwide

SUMMARY:

This project will expand the use of quantitative genetic selection in the U.S. sheep industry by combining the relationship and information distribution that breed associations have with their members and the genetic analysis program operated by the National Sheep Improvement Program. Collaboration between breed associations and genetic analysis have been outlined as a priority for the adoption of NSIP and has proven to be a successful model in other livestock species. Forming this relationship will expand the use of estimated breeding values in selection decision to increase the productivity and profitability of the U.S. sheep industry and allow breed associations to offer more service to their members while increasing the number of sheep being registered.

STATUS:

Complete

FINAL REPORT:

American Sheep Industry Association's Let's Grow Round 5
National Sheep Improvement Program Final Report
August 31, 2018

Overview:

The National Sheep Improvement Program (NSIP) was very fortunate to receive funding from the American Sheep Industry Association's Let's Grow program in round 5 for the *U.S. Breed Associations and NSIP Collaboration: Forging a Relationship for the Future of Genetic Improvement*. This project was developed to expand the use of quantitative genetic selection in the U.S. sheep industry by combining the relationship and information distribution that breed associations have with their members and the genetic analysis program operated by the National Sheep Improvement Program. Collaboration between breed associations and genetic analysis was outlined as a priority for the adoption of NSIP and has proven to be a successful model in other livestock species. Forming this relationship was designed to expand the use of estimated breeding values in selection decision to increase the productivity and profitability of the U.S. sheep industry and allow breed associations to offer more service to their members while increasing the number of sheep being registered.

Project Completed and Outcomes:

The funds for this project supported a meeting between the NSIP and leaders of the major breed associations of commercial relevance in the U.S. The meeting took place in Coalville, Utah on

October 13-14, 2017 in conjunction with a meeting of the Leading Edge Sheep Producers group based in Utah. The collaborative meeting was designed to encourage networking between the producers in the Leading Edge group and the leaders of the breed associations and to demonstrate a project being done on a commercial ranch in Utah showing the benefits of quantitative genetic selection. Attendees included:

- Bob Heuvel, Continental Dorset Club
- Jim Morgan, Katahdin Hair Sheep International and NSIP
- Brett Pharo, American Polypay Sheep Association and NSIP
- Amanda Everts, United Suffolk Sheep Association
- Dale and Judy Dobberpuhl, United Suffolk Sheep Association and NSIP
- Jeff Ebert, American Hampshire Sheep Association and Associated Registries
- Harvey Warrick, United Suffolk Sheep Association, Lincoln Association and NSIP
- Woody Joslin, American Rambouillet Sheep Breeders Association
- Matt Benz, American Rambouillet Sheep Breeders Association and NSIP
- Paul Lewis, American Dorper Sheep Breeders Association and LambPlan
- Kathy Lewis, ASI Genetic Stakeholders Committee
- Susan Shultz, ASI Secretary-Treasurer/Let's Grow chair and NSIP
- Mike Corn, ASI President
- Alan Culham, ASI Let's Grow Coordinator and NSIP
- Kyle Partain, ASI, Editor of Sheep Industry News
- Rusty Burgett, NSIP Program Director

The meeting began as a joint meeting with the Utah Leading Edge sheep producers group. Lesa Eidman, Alan Culham, Tom Boyer and Rusty Burgett each gave a brief presentation on the progress of the Leading Edge Group and plans for future advancements. Then the Leading Edge group went to Tom Boyer's ranch for an ultrasound demonstration by Dr. Lisa Surber.

Rusty Burgett began the breed association meeting with an overview of the objectives to forge a relationship for breed improvement in the U.S. sheep industry. He gave brief presentation on the basics of NSIP, as there were some attendees that were not familiar with the details of the program. Then a discussion began on the value of being a member of the various breed associations. Benefits to membership included:

- Social networking
- Youth development
- Access to shows
- Breed Promotion

Surprisingly, it was pointed out by an attendee that none of the associations listed breed improvement as a priority. Many attendees were very open and honest that their major revenue source was from registrations for shows and breed improvement was not a major priority for their organizations but realized that it should be a greater priority. Discussions then took place on how to encourage the collaboration of NSIP and the various associations. Some key points of the discussion included: the associations want to help promote the use of NSIP but need more

information to distribute and most were not aware of the promotional membership discounts available from NSIP for new and youth members.

This appears to be a good opportunity for NSIP to capitalize on the information distribution and desire of the breed associations to help recruit new members. A community Dropbox or Google Drive folder accessible by the associations and NSIP will be created to help share information about the various organizations. This will allow the associations to have access to all NSIP promotional material and articles and will allow the associations to share their news with NSIP on a regular basis. The associations would like to see more articles focused on the progress individual flocks have made by using NSIP and emphasizing breed improvement to share with their members. The associations also requested they be notified when new members enroll in NSIP so they may reach out to them for help and to highlight them in articles. An article will also be written emphasizing the “first year free” membership promotion and breaking down the fee structure as this was a point of confusion.

The United Suffolk Sheep Association sent a survey out to their members last year probing their interest in NSIP and breed improvement with a good (25%) return rate. The results indicated an overwhelming interest in NSIP but outlined the need for more information to the members. Based on this finding, Amanda Everts, the USSA and Rusty Burgett hosted a webinar for the USSA membership providing additional information on NSIP specific to Suffolk sheep. This meeting was well attended by members and leaders of other breeds also participated and indicated they would like to host a similar event for their members.

On Saturday, the joint meeting started with a presentation outlining the details of the next field trial being conducted by the Leading Edge group at the Mickel Ranch. Then, attendees participated in a ram selection exercise at Tom Boyer’s ranch. A class of 4 Suffolk rams on the trial were first evaluated and ranked by attendees based on visual appraisal. Then, raw data and birth dates were introduced and animals were re-ranked followed by EBVs being introduced and a final placing was determined. Then, those skills were applied to a keep/cull class of 10 rams followed by a great discussion, which concluded the meeting. This exercise was beneficial for all that attended by comparing sheep from NSIP flocks to those of non-NSIP flocks and noted the many similarities and differences but was surprising to most how similar the sheep were in visual appearance but then the expected differences in production based on genetics. This exercise helped to dispel some myths about sheep from NSIP and provided feedback to NSIP producers about the visual appraisal of the animals.

Summary

The need for more information about NSIP for the breed associations to distribute was very apparent from this project. The breed associations are very willing to help distribute information about NSIP to their membership while still maintaining their original purpose of social networking, youth development and showing. This project has started to form the relationship between the various breed associations and NSIP. This relationship has continued to grow since completion of this meeting and allows the associations and NSIP to provide better service to the U.S. sheep industry. This should lead to a mutually beneficial relationship moving forward that benefit the entire industry nationwide.