



Western SARE Program

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RESTORING AGRO-PASTORAL WAYS

Situation

The Navajo Nation encompasses 27,000 square miles in northeast Arizona and parts of Utah and New Mexico. The largest tribal land in America, greater in area than 10 of the 50 states, it is a land of unparalleled beauty and grandeur.

Traditionally, the Navajo People, or Dine, were self-sustaining. They grazed livestock, mainly sheep and goats, for food and cultural values. They planted fields of corn, beans and squash. They hunted and gathered. Contact with Anglos in subsequent years often yielded a bitter harvest, diminishing cultural and traditional ways, including the near loss of the Navajo sheep industry owing to charges of rangeland degradation.

In recent years, several projects, including the Navajo Sheep Project, led by Dr. Lyle McNeal of Utah State Univer-



Principal investigator Lyle McNeal with cooperators Irvin and Marjory Curley. Below, the Curley's daughter.

sity, have nourished hope. This Western SARE Research and Education Grant sought to build on that project's reinvigoration of the Dine agro-pastoral tradition on a nation scarce in water and arable land but abundant in kinship and culture.



Objectives

1. Develop and sustain improved socio-economic conditions for Navajo agro-pastoralists, maintaining cultural integrity by preserving the 'Navajo Lifeway'
2. Develop integrated systems to maximize output from agro-pastoral production practices while minimizing

environmental impacts

3. Develop a whole-farm systems model for sustainable rural economic development
4. Provide on-site mentoring by a trained Navajo to develop entrepreneurial skills and cultivate leadership

Actions

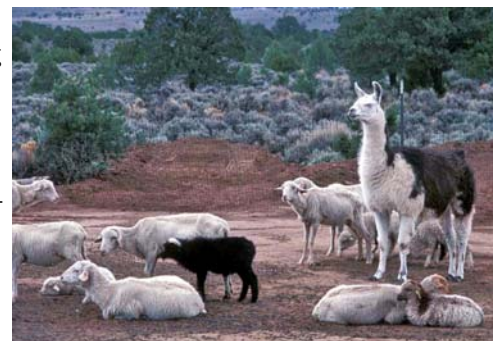
Livestock

With assistance from project team scientists, cooperator families began a planning and calendaring process for managing their sheep and goat flocks. Grazing habits and performance of sheep and goats was evaluated, and guard llamas were placed with a demonstration flock of 950 ewes, lambs, does and kids.

Horticulture

Garden and horticultural materials (plants for food, dyeing wool, making baskets, medicine and ceremonies) were introduced, with nuclear and extended families involved in planning.

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Participants learned about using guard llamas.

Research & Education Grant

Project Number: SW93-034

Title: Four Corners Navajo Nation Sustainable Agriculture Demonstration Project

Principal Investigator:

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Amount Funded: \$100,000



Western SARE, a USDA organization, funds grants for research and education that develop or promote some aspect of agricultural sustainability, which embraces

- *profitable farms and ranches*
- *a healthy environment*
- *strong families and communities.*

The Western Region, one of four SARE regions nationwide, is administered through Utah State University.

Western SARE:
<http://wsare.usu.edu>

National SARE:
www.sare.org

RESTORING AGRO-PASTORAL WAYS



Entrepreneurship

Economic analyses were conducted with cooperator families, all of whom expressed a desire for self-sufficiency and returns sufficient to cover the costs of sustainable agro-pastoral practices.

Results

Livestock

A pilot study under the direction of Colorado State University at Hesperus, CO found that returning to traditional migratory grazing practices (winter-spring high desert to summer-fall mountain grazing) benefited the health and well-being of sheep and goats.

Other benefits demonstrated in the project:

- The value of multi-species grazing
- Portable corrals for nighttime bedding to prevent trampling from trailing
- Portable water troughs to reduce animal stress and even out grazing

Navajo grazers:

- Improved animal reproduction efficiency
- Cultivated an eye for culling sheep
- Improved breeding strategies
- Gained new skills in using llamas as guardian animals

Several livestock fact sheets were printed under the auspices of the Western SARE grant:

- Dystocia (Lambing Difficulty)
- The Basics of Saving Newborn Lambs
- Livestock Water Supplies
- Flock Guarding Llamas
- Wool Grading and Evaluation
- Dealing with Drought

Horticulture

Navajo cooperators:

- Expanded planting of indigenous varieties of corn, potatoes, squash and melons
- Planted shade and fruit trees around homes for food and windbreaks
- Seeded buffalo grass to control dust
- Installed rain gutters and downspouts for natural water harvest

Entrepreneurship

- One family initiated a value-added wool-processing endeavor, including a mail order catalog that described various types of Navajo food and animal products, including yarns and Navajo rugs.

- Another cooperator family initiated a therapeutic bear sewing project employing six Navajo women in a renovated stone building at the cooperator's home.
- A cooperator daughter, recently graduated from high school, received business training to gain expertise to oversee entrepreneurial ventures.
- Surplus computers were acquired and training conducted.

Potential Benefits

In addition to improved livestock, cropping and entrepreneurship, this project created:

- A sense of pride and empowerment for cooperator families serving as models
- A bond of trust with Anglos and the universities and programs they represent
- Increased responsibility toward land and livestock stewardship
- A rediscovery of traditional cultivation techniques and plant varieties with functional and cultural values
- Water harvesting and plantings for improving home-site environments



Lena and Rachel Benally spin wool.