Open Range Mineral Supplementation Study on Cattle at the Warm Springs Indian Reservation

Fara Ann Brummer (Oregon – Federally Recognized Tribal Extension Program Grant)

Title: Open Range Mineral Supplementation Study on Cattle at the Warm Springs Indian Reservation

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An open range cow foraging in Warm Springs

Cooperators:
Oregon State University Extension Service
Warm Springs Tribal Range and Agriculture Department
Warm Springs Range and Agriculture Committee
Oregon State University

Amount Funded: $3,000

Situation:

Livestock (beef cattle, roping cattle, and horses) forage year round on the open range within the boundaries of the Warm Springs Indian Reservation. Although forage is sporadically abundant on the range, typical of the Great Basin ecosystem, the calf crops from beef cattle have typically been compromised. Nutritional deficiencies were often thought of as the root cause.

In addition, conversations with tribal producers indicated a past history of retained placentas and muscular compromise in livestock. These issues led the Oregon State University Extension Program at Warm Springs, in cooperation with the Western Sustainable Agriculture Research and Education program, to examine mineral deficiencies of unsupplemented open-range livestock.

Testing of range horses, conducted in 2006 by USDA APHIS Veterinary Service under an MOU with the Tribes, revealed severe selenium deficiencies. The low levels sent out an alarm bell for further testing and outreach education in this area.

In 2007, under the Western SARE FRTEP grant, the Oregon State University Extension Service collected blood samples from beef cattle breeding cows to compare mineral levels and histories of mineral-supplemented animals with unsupplemented animals.

As expected, some mineral levels were low in certain animals, but selenium was clinically and consistently low in all of the females tested. This information was the basis of the current education efforts by Extension to promote mineral supplementation on the Warm Springs Indian Reservation.

Objectives

1. Assess the forages that range livestock are consuming to provide a foundation for analyzing selenium deficiencies
2. Conduct an educational outreach program with selenium at the forefront.
3. Further increase project participant knowledge, skills and awareness in:
   a. Nutritional needs of livestock
   b. A better economic return from family herds
   c. An improved sense of ownership and pride in livestock production
   d. Mineral supplementation as a method for increasing herd health and reproduction

OSU Extension Agent Fara Brummer collects blood samples from cattle.

Actions:

Education outreach efforts are focusing on providing two open-range mineral feeders as part of a demonstration project. Loose salt/mineral supplement are being provided for initial use in these feeders. The feeders can be moved from one site to another, and subsequently utilized as a prescribed grazing tool once livestock are familiar with them. Feeders can be moved with a pickup by hitching a chain around each leg of the attached skid.

Two styles of feeders were built using original plans came from the Louisiana State University Extension Service, which has archived many agricultural engineering plans. The initial feeder built was too large. In addition, its having one enclosed wall appears to pose a problem for range animals that are naturally spooky and claustrophobic. Also, aggressive lead animals may tend to dominate the enclosure.

An amended design is smaller, easier to tow, and has two open sides, allowing access from either side, better animal distribution, and less threat to the spooky animal.

Both styles of feeders will be placed on the range in 2009, providing a year-round source of minerals and salt for open range livestock. In addition to their utility for the range livestock, the feeders will be assessed for their ease of mobility in relocation.

The supplemented herds will be monitored for short- and long-term changes in reproduction and herd health. Tribal producers will be engaged to monitor their herds and share results with the Extension office. The impact of the mineral supplement will be monitored for five years – from 2009 through 2013.

A mineral feeder built from Louisiana State University Extension Service Plans

Outreach:

One workshop has been held on the project and its goals and potential impacts, and another is scheduled for 2010 to share results of the feeders, mineral usage, calf crops, herd health and other impacts.

A brochure will be developed for the local community that will outline the project results and the need for supplementation.

Potential Outcomes:

It is hoped that improved supplementation will:

- improve the efficiency of the cattle to produce more calves
- result in healthier calves with heavier weaning weights
- improve fertility rates to make the best use of the resource

"For the price of one calf, we can mineral supplement 20 breeding cows in a year," said project coordinator Fara Brummer. "If those cows increase their calf crop by only 5%, the supplement will pay for itself."

Randy Scott and Gene Sahme, pictured above, of Warm Springs built the demonstration feeders as part of the Western SARE Warm Springs project