

Restoring Degraded Rangeland

Sustainable Agriculture Fact Sheet

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Crop: Cattle production

Need: Restore rangelands degraded by invasive grasses and weeds

States: All Western states

Background: Ranchers in the West often confront degraded grazing lands from previous overgrazing, frequent wildfires and subsequent invasion of weeds and undesirable forbs. As native grasses are pushed out, ranchers have to cut stocking levels because their land can't support as many cows.

The Problem: In many Western rangelands, medusahead and cheatgrass have pushed out native grasses. Without the native plants, cattle turn to eating lupine, which causes crooked calf syndrome. In one county alone in 1997, 4,000 calves were affected by the affliction and many had to be destroyed. Data on one ranch shows stocking rates dropped by more than 50% since 1990, attributed totally to the invasion of medusahead.

The Research: With funding from Western SARE, researchers from Utah State University and the U.S. Department of Agriculture's Agriculture Research Service looked for economical and effective ways for ranchers to reduce medusahead invasion on their ranges and prepare the land for restoration with native vegetation.

The Impact: Researchers showed that cattle trained to eat medusahead can graze the invasive weed down to low enough levels that reintroduced native grasses and forbs can establish. The effective sequence was to graze down a degraded area in year one, then reseed it with native vegetation. Keeping cattle off those areas for one or two years allows the native plants to establish and spread, and grazing then resumes at appropriate levels.

Researchers tested different seed mixtures to determine which work best in different types of ranges, and are now looking at the most efficient way to reseed land. Juan Villalba at Utah State University and his team are now investigating whether the nutritional context created by establishing the native grasses and forage kochia provides the appropriate nutritional context to enhance use of medusahead and reduce use of lupine by cows and their calves, while taking advantage of the animals' "hoof effect" to establish more perennials in the grazed areas.

The Challenges Ahead: As weather extremes, wildfires and invasive weeds continue to plague Western ranchers and range managers, they will need a number of strategies and approaches to maintain healthy and productive rangeland.

Links:

Overview: <http://www.westernsare.org/Learning-Center/From-the-Field/Reducing-Medusahead-and-Preparing-the-Land-for-Restoration>

Project reports: https://projects.sare.org/sare_project/OW13-005/;
https://projects.sare.org/sare_project/SW15-003/

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