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TARGETED GRAZING:

*A natural approach to
vegetation management
and landscape enhancement*

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READER'S GUIDE: To the Targeted Grazing Handbook

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READER'S GUIDE



Employing livestock to manipulate vegetation is as old as grazing itself. Promoting grazing to manage vegetation as a paid service – typically called prescribed or targeted grazing – is a more recent phenomenon. As targeted grazing has gained a foothold in the land management arena, both research and experience have evolved to provide land managers and grazing service providers with more definitive tools for managing vegetation. This handbook represents a compilation of the latest research on harnessing livestock to graze targeted vegetation in ways that improve the function and appearance of a wide variety of landscapes.

The handbook is organized both as an introduction to targeted grazing for the novice and as a useful reference for those already familiar with the topic. The chapters can be studied collectively or individually, depending on a reader's needs, and they're written toward an audience that includes livestock producers, land managers, landowners, grazing enthusiasts, or simply interested observers.

Readers will note that the same topics appear more than once throughout the handbook, for example, discussions on animal diet selection, fencing, predators, and integration with other vegetation management tools. In each instance, the editors have tried to assure that the topics are in context and germane to that particular discussion.

Organization

The sequence of topics is designed so that the first section, chapters 1 through 6, provides readers with basic principles that underlie animal and plant behavior and response in the context of managed herbivory. Following the overview and introduction in Chapter 1, Chapter 2 discusses animal behavior and ways it can be applied to enhance grazing effectiveness. Chapter 3 describes basic approaches for working with animals to carry out grazing prescriptions, from herding, to fencing, to setting up management relationships. Chapter 4 provides information on how various plants – grasses, forbs, and shrubs – respond to grazing, including their defenses and their susceptibility. In Chapter 5, readers will learn about the rationale behind, and techniques for, monitoring to assess the results of grazing projects. Chapter 6 provides an important look at how using more than one species of livestock, in combination, can have more profound impacts on vegetation than using just one species.

The second section of this handbook on targeted grazing takes a detailed look at each of several management applications for the practice. First it looks at managing several types of plants in various geographic contexts, namely: herbaceous broad-leaved weeds (Chapter 7), annual invasive grasses (Chapter 8), and brush and woody plants (Chapter 9). Chapter 10 provides management considerations for silviculture, both natural and plantation; Chapter 11 discusses applications in

orchards and vineyards; Chapter 12 shows various methods for applying grazing to alter or minimize fire risk; Chapter 13 looks at ways to improve wildlife habitat and points out cautions over wildlife-livestock interactions; and Chapter 14 shows different applications on cultivated cereal and alfalfa croplands, both for managing residue and suppressing insect pests.

Next, in Chapter 15, are prescriptions for 21 specific plants, including 14 forbs, five woody plants, and two grasses. These include a description and photograph of each target plant, followed by guidelines for the ideal livestock species, objectives to be achieved with grazing, the proper timing for treatment, and the potential for effectiveness in grazing that particular plant. References for additional information are listed on each of the 21 plant species.

To provide a sense of the experiences of successful targeted grazing managers, Chapter 16 looks at the practice from the vantage point of the service provider (the animal owner), and Chapter 17 offers the perspective of the land manager.

The editors and authors have sought to round up the latest and most pertinent information on targeted grazing. But no handbook can include the vast storehouse of knowledge on the subject. To that end, a list of additional resources is included as Chapter 18, followed by a glossary of terms and a list of plants discussed in this handbook.

Points to Ponder

Readers, whether owners or managers of land or livestock, who intend to engage livestock to manipulate landscapes should keep in mind a couple of crucial points:

1. Targeted grazing is not a one-time shot. Anyone who promises to solve vegetative problems in a single pass or in a single season has no place in the business. While research and experience have proved that targeted grazing can alter landscapes, it has also shown that it takes patience. A grazing prescription may call for three years of repeated grazing. It may take five years. Or it could require a continuing prescription to keep unwanted vegetation in check.
2. Before any grazing project begins, both the land manager and the grazing service provider need a shared vision of what they want the landscape to look like as the grazing prescriptions evolve. They should focus on plant succession from an unwanted state to a desirable community. What plants are wanted on the site? Will they emerge naturally or require some type of seeding? Will the grazed site become susceptible to invasion by plants that are worse than the ones removed? Just as cleared land is opened for rejuvenation with desirable plants, it is also susceptible to invasion by unwanted plants.
3. Targeted grazing is a business. Land owners and managers must recognize the value of targeted grazing to improve the appearance, function, and environmental quality of plant, land, and water resources – and be willing to compensate service providers for that value.

The goals of targeted grazing are simply this: to improve the country's vast natural and cultivated landscapes in the most effective manner and at the least cost, both economically and environmentally. It is hoped that the tools and information shared in this handbook will help achieve those goals. Indeed, this is a handbook whose time has come.

A Brief History

In a publication like this, with a long trail to completion, it's difficult to give sufficient credit where it is due. As is pointed out in the handbook, the idea of using grazing animals to manage vegetation has a long history. But the idea of bringing the body of knowledge to bear on targeted grazing as a service business for achieving environmental goals began taking shape in the 1960s and emerged into focus during the 1980s and 1990s.

In 1968, the U.S. sheep industry began gathering the existing knowledge and research on lamb and wool production into a format useful to producers. This yielded the Sheep Industry Development Program's Sheep Production Handbook and the Sheep and Goat Research Journal. However, by the early 1990s, it had become apparent that, while references were made to using sheep as natural resource management tools, there was no collection of information that producers and resource managers could practically apply. To address this gap, Tom McDonnell, director of the American Sheep Industry Association (ASI) Resource Management Council at the time, formed an ad hoc steering committee in September 1992, with members from across the country representing universities, government agencies, and producers. The committee crafted this statement of its beliefs:

“The United States sheep industry supports the need for healthy functioning ecosystems and realizes that proper management of sheep grazing is compatible with most of these systems. A viable sheep industry provides the opportunity for economic, social and cultural benefits from the use of natural resources. In addition, sheep can be effectively utilized as a biological tool by natural resource and land managers to benefit ecosystems. Unsustainable grazing by any herbivore is not condoned by the sheep industry.”

With statement in hand, the committee launched a 10-year project to compile information on using sheep as natural resource management tools. The initial fruits of the effort appeared in a 1994 special issue of the Sheep Research Journal titled, “The Role of Sheep Grazing in Natural Resource Management.” In 80 pages of the journal, nine articles discussed the value of sheep grazing to provide ecological benefits in a variety of venues, including weed control, riparian management, fire fuel management, range improvement, forest management, and wildlife habitat improvement. In 1995, ASI developed nine brochures and a display booth to promote the concept of prescribed grazing, at the same time encouraging research on various aspects of prescribed grazing at universities and government agencies.

In 2003, retired sheep specialist Dr. Hudson Glimp initiated a prescribed grazing conference in Sparks, Nev. The overflow audience of nearly 300, many of them sheep and goat producers, attested to the powerful interest in adopting prescribed, or targeted, grazing and confirmed the need for a handbook on the subject.

In short order, Karen Launchbaugh, a rangeland professor and department head with the University of Idaho, joined with John Walker, a rangeland professor



Photo: Ron Daines, Logan, UT



Photo: Ron Daines, Logan, UT

and research director at Texas A&M's Research and Extension Center in San Angelo, to pick up the baton, applying for and receiving a grant from the National Sheep Industry Improvement Center to develop this handbook.

The Future

This handbook is just a milestone along a continuum to incorporate targeted grazing into the mainstream of resource management. As this handbook reached the final stages in October 2006, agencies and universities had been briefed on the issues and made commitments to ratchet up research efforts into a variety of vegetation management arenas involving sheep, goats, and cattle. In addition, testimony had been developed and presented that would make targeted grazing a basic tenet of the next Farm Bill.

At the same time, ASI and other groups continued to solicit grant dollars to support the effort. A two-year grant from the Natural Resources Conservation Service (NRCS) on invasive species management, received in mid 2006, was to help establish a training program in targeted grazing, with the handbook at its core, for new and existing employees at NRCS, the Bureau of Land Management, and the U.S. Forest Service. Additional energy was to be expended to train employees with the Farm Service Agency, the U.S. Fish and Wildlife Service, and the National Park Service.

Further, efforts were being focused on developing a certification program for contract grazing with support

from the Society for Range Management and through the American Sheep Industry Association.

Credits

As with any project of this nature, it takes a fully engaged team to bring the product to completion. Certainly, the handbook authors – more than 30 of them who volunteered their time, energy, and expertise – deserve praise and gratitude. The authors have been working with Karen Launchbaugh and John Walker, project editors, who sponsored an innovative meeting in January 2006, in Boise, to review and critique an early draft of the handbook. Several producers involved in targeted grazing along with university researchers, agency employees, and members of ASI committees – more than 40 in all – spent two days providing guidance, which has been crucial in bringing the handbook to completion. Indeed, several of the producers involved in the meeting said they wished the handbook had been available when they began their own targeted grazing projects.

This handbook and the accompanying brochure promoting its use were designed and laid out by Amy Trinidad, editor of Sheep Industry News with ASI. Ron Daines, an editorial consultant from Logan, Utah, provided editorial advice as the handbook evolved.

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