



Cattle Producer's Handbook

Range and Pasture Section

544

Targeted Grazing for Weed Control

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Targeted or prescription grazing describes a method of manipulating foraging animals to achieve a desired effect. The difference between good grazing management and targeted grazing is the refocus of outcomes from livestock production (pounds of meat) to ecological and vegetative enhancement (Launchbaugh and Walker 2006).

As with any grazing system, it is important to first determine what the problem(s) is and define a set of achievable goals and objectives based on the desired outcome(s). A land manager and livestock producer must recognize not all goals will be synergistic, and some may even be antagonistic. For example, it may not be possible to graze yearlings to reduce cheatgrass and obtain 2 pounds of gain per head per day without supplemental feeding.

Land managers can use grazing animals to manipulate range vegetation by adjusting timing and stocking rates, modifying livestock behavior, and/or changing the types and classes of livestock used.

Timing

Timing is an important component of prescription grazing. One of the primary objectives of most targeted grazing systems is to give desirable plants a competitive advantage over undesirable plants, which can be accomplished through correctly selecting the timing of grazing.

The timing of grazing includes season of use and duration. The goal of targeted grazing is to damage the targeted species at the most vulnerable or susceptible time, thus making it less competitive and reducing growth and seeding potential.

When grazing to reduce undesirable plants, it is important to understand how the target plant responds to grazing in terms of regrowth, carbohydrate allocation,

and how these responses are affected by environmental factors such as soil type and moisture availability. Ideally, target grazing occurs at the proper timing when plants are using stored carbohydrates, and moisture supplies have become limited. The greatest amount of success occurs when both factors are aligned. This is especially apparent in arid areas where the sensitive period coincides with water availability.

Plants are most tolerant of grazing when they have developed a strong root system but have not yet started the reproductive phase. Once they enter the reproductive phase, most plants exert a large amount of their carbohydrate reserves to complete reproduction. Thus, it is important to target undesirable plants during their most susceptible phase, which reduces their ability to photosynthesize and gain carbohydrate reserves more so than the desired species. This can occur when the weedy species shifts its carbohydrate allocation from vegetative and root growth to reproduction by grazing to reduce seed production or through heavy repeated grazing during vegetative growth to prevent carbohydrate allocation to root development, consequently shrinking the root system.

Annual plants are especially vulnerable during the time period just before seed set. Target grazing is usually applied at this timing when nutrient reserves are being depleted and the ability to adapt to damage or re-grow is decreased. If plant carbohydrates are optimally depleted, weed control is attained because the target plant does not have enough energy for full seed maturation (annuals) or in some cases dormancy (perennials).

A single session of grazing heavily during the reproduction phase may be successful if moisture is not abundant from rainfall at the time of grazing, or the area does not have heavy soils with high available