

Winter rangeland grazing – Tip Hudson

Why

Intermountain bunchgrass rangeland is characterized by plants with a high proportion of reproductive tillers to vegetative tillers (stems) as well as elevated growing points. Grasses with elevated growing points are more susceptible to grazing damage than those with low growing points (like Sandberg bluegrass). Grasses with fewer vegetative tillers and more reproductive stems and who are mostly dependent on seed production to replicate themselves are also more susceptible to grazing damage, as a population, in that there is greater likelihood of a reproductive tiller getting eaten before it has had a chance to produce seed, or potential new plants. These same grasses also have their highest nutritional value in the spring when animals want to be out, ranchers are anxious to stop feeding hay, and riparian areas are not as enticing as in August. It is for these reasons that much of the Intermountain West bunchgrass range experienced declining health in the last century. Ironically, tradition holds that Eastern Washington was “discovered” by cattlemen from California who abandoned their stock in the face of a particularly harsh winter and returned in the early summer to find them fat. Winter grazing can be an important management component of a cattle or sheep operation toward a couple key objectives: improved profitability and increased rangeland health.

Economics

The cost of feeding hay in the winter has been variously estimated at 50-80% of the average cattle operation’s annual operating costs. Consequently, management actions that reduce this massive cost in an already marginally profitable enterprise (on average) have the potential to increase profit for operations in the black and perhaps make those in the red pencil out for a change. Deferring spring grazing on some rangeland pasture to “stockpile” for fall or winter use can extend the grazing season, shortening the hay feeding season. This may necessitate reduction in cow numbers, but the increase in per cow net returns may offset the fewer pounds weaned depending on individual circumstances. For example, 300 cows at \$75/hd net return will be worth \$2500 less per year than 250 cows at \$100/hd net return.

Plant health

Perhaps the single most important change toward improving rangeland condition (and total production) is avoiding, at least in some years, grazing bunchgrasses heavily during the critical growth period of internode elongation, often referred to as bolting. Bunchgrasses will sustain mostly vegetative basal growth for a period in the spring, then rapidly elongate between the growing points to their characteristic stature, then mature the seed, then stop above-ground growth. *Repeated defoliation below the stem’s growing points during the bolting stage will eventually kill the plant.* Fall or winter grazing a given location such as in a regular rotation system that allows unimpeded growth during the critical stage when plants are building photosynthetic leaf area to generate a full seedhead will maintain rangeland productivity and promote the increase of perennial bunchgrasses as animal movement and hoof action pushes seeds into the soil. Seed-to-soil contact is one of the primary limiting factors for native bunchgrass reproduction.

There are challenges associated with grazing during the fall and winter.

Timing

Most producers in eastern Washington calve in the early spring, which means cows are in the second and third trimesters with their next calf during the fall and winter. Fall presents the best opportunity for most closely matching nutrient availability to animal nutrient demand, since dry cows post-weaning have the lowest nutritional need of any time in the annual cycle. At this time, rangeland forage has lost some of the crude protein value, but retains much of the digestible energy.

Riparian use

The primary reason more rangeland is not used in the fall is that this is the season when uplands are driest, forage has little more moisture than hay, and riparian areas may still be growing grass, but they often have live water and shade and are actively sought out. Late-season riparian use has caused much of the public outcry against Western livestock grazing. However, in some areas seasonal water sources may have dried up and the producer with off-site water can get good distribution and be less concerned about streambanks because they are dry and firm. The combination of well-placed water tanks and electric fencing to control riparian use can make even rangeland parcels with perennial streams usable. More producers should consider herding as a tool for placing cattle (as opposed to “hazing” or chasing). *(There is an excellent new Interagency Technical Reference on riparian grazing (TR 1737-20) available for download at <http://www.blm.gov/nstc/library/techref.htm>).*

Nutrition

Rangeland species composition can vary widely from one site to another. Since the nutritive value of the forage is largely dependent on the plant species comprising the stand, forage values may vary significantly across even relatively small areas. In addition, the nutritive components of a plant decline as the plant matures, some faster than others. At low densities, animals will select those plants that most closely meet their nutritional needs, tending to select a higher value diet than what is represented on average on the landscape. On the other hand, more efficient use can be had at higher densities for shorter periods of time. In addition, rumen bacteria are not as choosy as the cow’s tongue - palatability is not always an accurate indicator of nutrient value. Rumen microbes digest the food first and are able to synthesize all of the necessary amino acids from protein found in low quality forage. As microbes die, they are absorbed by the ruminant and have nutritional value.

Supplementation is simply making up the difference between what the forage provides and what the animal needs. Under low nutrient value conditions, animals will likely require protein supplement, and they will require adequate energy to properly digest the protein. In early fall, protein will be most limiting for dry cows. Later in winter, plant protein and energy levels will be insufficient for proper nutrition. Molasses-based supplements work well because they can provide a liquid protein source in an energy-rich base.

References

T.E. Bedell. 2003. Range Nutrition in Relation to Management. Cow-Calf Management Guide & Cattle Producer’s Library. (Available at www.csubeef.com; order at hard copy at <http://www.av.uidaho.edu/wbrc/>).