



Range Management of Alkaline Meadows

By Gerry Steinauer

Wherever the cattle industry is sustained by rangeland, the needs of cattle and the needs of other creatures that depend on the grass — even the needs of the grass itself — often seem to be in conflict. Fortunately, the same range management practices that enhance range productivity in the North Platte Valley also can enhance the natural diversity of the valley's alkaline meadows.

Restoring overgrazed meadows to their full potential as rangeland requires a reprieve from season-long grazing. Resting a pasture for a growing season allows stressed plants to rebuild carbohydrate reserves, expand root growth and set seed. Plants in chronically abused meadows may require several years of rest to recover. Rested meadows can still be grazed in fall or winter (preferably with dry cows that require lower forage quality than lactating or growing cattle) or used as calving pastures before spring thaw without causing damage to plants.

After an initial recovery period, alkaline meadows can be grazed using a pasture system incorporating periods of nongrazing. In rotational grazing systems, cattle are moved through several pastures during the growing season, allowing each pasture a period of rest. A typical rotational system might include four pastures, each grazed for six to eight weeks each growing season. The rotation sequence is changed each year so no pasture is grazed during the same period more than once every three or four years. One of the pastures might be rested until after frost, giving its plants a full growing season of uninterrupted growth.

Short-duration systems incorporate more and smaller pastures that are grazed for shorter periods than in rotational systems. Concentrating livestock forces them to graze plants and areas of range that are not utilized under season-long grazing, a more efficient use of the forage in each pasture. Properly designed rotational grazing systems utilize 60 to 70 percent of the available forage, whereas only 50 percent utilization is recommended for season-long grazing.

Meadows should not be pastured when soils are saturated. Hooves penetrate deeply into the fine-textured meadow soils, disrupting the soil surface and destroying plant foliage, growing points and roots. Over time, excess trampling of wet soils results in soil compaction and reduced oxygen levels which encourage less desirable forage plants.

Warm-season grasses and forbs in hayed meadows benefit when annual midsummer haying is discontinued. Occasional haying in mid- to late September gives most meadow plants a full season of uninterrupted growth and recovery, but late hay has a lower nutrient content and there is no regrowth for fall or winter grazing. When several hay meadows are available, harvesting order can be altered each year giving plants some of the same benefits as rotational grazing.

Another option is leaving parts of a meadow uncut for fall or winter grazing. Well managed alkaline meadows have fairly tall grasses that rise above the snow and provide good winter forage. Uncut areas can be burned the following spring. Properly timed spring burns reduce cool-season grasses, reduce excess litter, recycle nutrients and benefit desirable warm-season grasses and forbs. Fall burns provide many of the same benefits.

Those management practices also can improve alkaline wetlands and meadows as wildlife habitat. A patchwork of vegetation of varying heights and densities provides optimal wetland habitat for the greatest diversity of wildlife. Rested pastures with tall, dense stands of vegetation provide wintering and nesting habitat for many species, and some birds and mammals prefer short vegetation — such as recently hayed, grazed or burned pastures — for foraging.

No single grazing or haying system is best under all conditions or for all ranch operations and not every pasture on a ranch need be included in a grazing system. Soil Conservation Service and extension range specialists can provide assistance in designing effective range management systems.