Graze Longer and Feed Less Roughage: Systems to Balance Native and Tame Pastures with Seasonal Needs

Cooperative Extension South Dakota State University

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Cooperative Extension Service
South Dakota State University
Brookings, South Dakota
Graze Longer and Feed Less Roughage

SYSTEMS TO BALANCE NATIVE AND TAME PASTURES WITH SEASONAL NEEDS

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You plan to graze different pastures at different times of the year in order to:

• Graze as many months of the year as the climate will permit, and thus reduce needs for roughage and feeding.

Costs of harvesting and feeding roughage to breeding herds are almost always too great to justify feeding in any weeks of the year when grazing should have been possible.

• Have the annual cycle in pasture quality coincide with the herd’s cycle of production.

Pastures of high quality are most needed when animals are suckling their young. Moreover, high quality just prior to and during breeding can increase the conception rate. Sales of calves, lambs, and yearlings are appropriate in summer or fall when pasture quality often declines, accompanied by poor animal gains. Lowest quality pasture can best be used in winter when gains are not essential.

• Maintain or improve each kind of pasture in the yearly system of pastures.

A guiding principle is: “Livestock gains in any one year must not reduce chances for similar or greater gains in following years.”

WHAT CAN BE DONE TO EXTEND GREEN PASTURAGE

Most stock raisers have enough variety in kinds of land to extend the period of green pasturage to 6 months.

With grazing of standing dry forage on native pastures, the entire grazing season can be extended to 9 and even 11 months in parts of the West River area; and to between 7 and 9 months eastward.

The Dry and Warm Summer Months—

There are kinds of pasture that are quite satisfactory for the period from about mid-July to about mid-September.

On cropland, a few acres of Piper sudangrass planted annually will fill this need admirably. Irrigated tame pastures, too, can be kept productive during this period. In areas where switchgrass, indiangrass, and big bluestem were once common, the domesticated strains of these species can provide excellent permanent tame pastures for these months.

On wet land, reed canarygrass will provide copious green pasturage during these critical months and is too little used for this purpose. Too frequently wet lands, with poor potential for wildlife, are treated almost as wastelands because they will not produce common crops. The high natural productivity of such lands can be fully realized wherever they can be fenced separately, seeded to reed canarygrass, and then alternately confining cattle on an area until grazed down to 5-inch height followed by resting that area until it has regrown to 15-inch height.

On dry non-cropland, either seeded or natural stands of the native perennial warm-season grasses are ideal for these months. Eastward these are big and little bluestem, switchgrass, and indiangrass. Westward these are little bluestem, sideoats grama, and prairie sandreed.

THE LUSH TIME OF YEAR

The period from May 15 to July 15 is one of generally adequate succulent forage—statewide—on almost all types of long-term pastures. The major introduced pasture grasses such as smooth brome, intermediate wheatgrass, Russian wildrye, Kentucky bluegrass, and the abundant native needlegrasses and wheatgrasses, all make major growth during this time.

Shortages of pasturage are almost always before May 15 and after July 15. Ample grazing on green growth can, and should, be had through a much longer season than 2 months.
On most West River range sites blue grama is normally present as an understory in natural stands of the taller grasses. It, too, is grazed during these months. But its production per acre, like that of the less common buffalograss, is low in comparison with the taller species mentioned. Therefore, these two short grasses are seldom included in mixtures for range seedings. However, on some sites minor amounts will in time volunteer into seedings of the taller native grasses.

The Cool and Frosty Autumn Months—

To extend the period of ample green pasturage beyond mid-September, to about the first of November, it is necessary to reserve a pasture each year for this express purpose.

You can have green grazing, in all but the driest years, from mid-September through October with a pasture of crested wheatgrass, Russian wildrye, or western wheatgrass and green needlegrass if the pasture is strictly unused in all other seasons of the year. Russian wildrye will in many cases extend the period a week or two further into autumn than the others.

The Cool and Frosty Spring Months—

The same types of pasture described for autumn will provide early spring green pasture if the pasture is strictly unused in all other months. When used for spring only, such pastures can provide green grazing in adequate amounts by about mid-April; with crested wheatgrass being sometimes a week earlier than the others.

Under this system, new spring growth will begin amidst much old growth of the preceding year. Green growth will constitute part of each bite by livestock long before the pasture appears green from the roadside. To fully appreciate this, you will have to stand among grazing cattle and see what is being drawn into the mouth by the tongue; or watch sheep to see what is pulled off during upward and forward jerks of their heads.

On cropland suitable for winter-rye, an adequate acreage sown annually to this crop will provide abundant green pasturage a month earlier than the period of generally lush growth on permanent pastures.

On some permanent cool-season pastures, nitrogenous fertilizers greatly increase early spring growth.

SIX MONTHS OF GREEN PASTURES

The preceding systems for obtaining 6 to 6½ months of ample green pasturage can be accomplished on croplands alone. Here introduced and domesticated native forage plants would be used in tame pastures of various kinds. It also can be accomplished with only native pastures wherever dominance of western wheatgrass and green needlegrass permits reserving at least one pasture for early spring and another for late fall grazing.

On almost all livestock farms and on most ranches the 6 months of green grazing will best be accomplished by using a combination of native pastures on non-cropland, supplemented by one or more tame pastures on lands suitable for cultivation.

South Dakota climate sets the limit on adequate green pasturage at about 6 months.

EXTENDING GRAZING INTO WINTER MONTHS

These 6 months of ample green grazing should, with few exceptions, be extended by as many months of grazing on dry forage as permitted by absence of snow cover. The few exceptions are those livestock enterprises with small acreage, good land, and inadequately used machinery and labor that can be used to store and feed roughage; and those that lack native pasturage for winter grazing.

Tame pastures have little value for grazing beyond their growing season. Native pastures in high range-condition-classes have no equal for winter use.

Native pastures in a low range-condition-classes are rarely useful in winter. Lower condition is marked by abundance of low-growing plants, annual plants, and some inedible plants. These replace taller native perennial grasses found in high condition ranges.

Annuals and common invading perennials, such as Kentucky bluegrass eastward and tumblegrass westward, are succulent and palatable when growing; but, in winter their old growth is of almost no value for grazing.

The same ranges in high condition—and reserved for winter use—will have taller native perennial grasses. These, by fall, have fortified veins that retain

These calves on March 11 are in very good condition; wintered with no hay on deferred native range; excellent condition class; fed 2½ pounds of 40% protein supplement daily. (SCS Photo.)
the leaves and have upright stems, thus avoiding the rapid decay at the soil surface. When green color is lost in autumn, the content of protein and phosphorus in the shoots declines sharply. But content of carbohydrate and calcium remains generally adequate whenever the forage is not covered or crushed to the ground by snow. If supplemented with protein cake, such a range ordinarily provides an adequate diet until the next spring's growth begins.

Moreover, livestock will voluntarily graze enough in winter from these taller native grasses to supply the energy required for maintenance and gestation if deficiencies in protein and phosphorus are corrected by feeding.

Only winter snows need prevent grazing. On short ranges, 2-3 inches of crusted snow may be too much. It is noteworthy that height of grasses is greatest on ranges in excellent condition class and when pastures are reserved for grazing in winter only.

ROUGHAGE FOR WINTER SNOWS AND DROUGHT CRISES

Hay or silage for minimum winter requirements and for emergencies will still be necessary. But, pastures reserved for early spring, fall, and winter, are also reserves for use in emergencies. They can be used at unplanned times when unforeseeable pasture shortages arise. Drought reserves for grazing animals can, to a degree, be on a native pasture ordinarily reserved for winter, as well as in stacks and silos ordinarily unused except in extreme droughts.

For professional help in adjusting acreages of different types of pastures and roughage crops to fit your kinds of land and the year-round needs of your breeding and stocker animals, contact your County Agricultural Agent or other range and pasture specialist.

This is one of five new Fact Sheets for ranchers and livestock farmers, specifically aimed at common problems of ranges and tame pastures, published by the Cooperative Extension Service of South Dakota State University, Brookings. Titles of these are:

"Proper" Range Use: How To Rate Use on Your Native Pastures.

Reseed Native Range Grasses? or Plant a Tame Pasture?

My Rangelands: What Kinds? How Good?

Range Seedings: Kinds that Succeed and Kinds That Fail.

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