

Greenhouse Gas MITIGATION

A Beef Sector Report

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GRAZING MANAGEMENT TIPS FROM THE EXPERTS

Duane McCartney, a forage and grazing management specialist with the Lacombe Research Centre in central Alberta, and Dr. Paul McCaughey, a pasture scientist with the Brandon Research Centre in southern Manitoba, say there are benefits to be found whether producers follow a simple rotation that involves moving livestock to new pasture once a month, or a very intensive system where cattle are moved to new grass twice a day.

Based on their research and experience, here are some observations about grass management and rotational grazing systems:

DON'T JUMP THE GUN

Grass, whether native or domestic, needs time to get established in the spring before grazing begins. As a guideline, for every day you graze a pasture too early in the spring, you lose three days in the fall, says McCartney. Allowing forages to get established and growing in the spring before being grazed improves plant vigor and ability to recover throughout the growing season.

Forage plants clipped in a research environment to simulate heavy grazing pressure were less productive. Plants which had all green leaf material removed had the same biomass above ground as they did below ground. Plants that were clipped once and then allowed to re-grow to the three leaf stage before the next clipping developed substantial root systems.

GRAZING LIMITS

Managing grazing pressure, which includes time of grazing, season of grazing and intensity of grazing, depends largely on growing season conditions, says McCaughey.

The goal is to manage plant reserves so plants remain vigorous. If plants are grazed too severely – too much of the above ground, green leafy material is removed – they begin to draw on root reserves as they re-grow. If enough leaf area is left, the plant can photosynthesize and produce enough energy to re-grow.



Plant types have different needs and characteristics. Some plants grow continuously, even after defoliation (grazing), while others, if the growing point in the crown is removed, have a considerable lag time before they begin growing again. On native range there is often a complex community of 40 to 50 plant types, however, you have to manage for the dominant species. On domestic pastures, there are usually only one or two plant species to be managed.

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GRAZING STRATEGIES

On a simple three or four pasture grazing rotation, in conditions that may only support one pass through each pasture, McCartney recommends creating an early-spring, sacrifice pasture seeded to crested wheatgrass, for example. That pasture fertilized in the fall, comes on early in the spring. Cattle turned out early graze the crested wheat heavily, which allows time for grass in other pastures to establish.



Grazed plants should re-grow to the three-leaf stage – roughly ankle height – before re-grazing is allowed.

Read the grass, says McCartney. To determine the next pasture in sequence after the turnout, he suggests walking the pastures to assess which has the most plant growth and select that as the second pasture. Make a similar check to decide the sequence of the third and fourth pastures in rotation.

In rotational grazing systems where pastures might be grazed two or three times during the growing season, McCaughey recommends a light to moderate grazing of each pasture the first pass through. This approach helps maintain plant vigor and minimizes the risk of weeds getting established.

STOCKING RATES

Adjust the stocking rate and/or timing of pasture moves based on plant growth, says McCartney.

Match the number of cattle to the amount of forage with the goal of keeping grass in a vegetative state.

In a paddock-type rotational grazing system, for example, if the grass is growing quickly, move cattle quickly through the rotation. As grass growth slows during the growing season, slow the rotation. It may mean that early in the growing season cattle are moved every three days, while later in the season it's a seven to 10-day rotation.

McCaughey cautions not to set stocking rates too high without the flexibility of reducing numbers. If a grazing system is set with a maximum number of cattle under ideal growing conditions, grass, cattle, or both, will suffer under drought conditions, for example.

PASTURE FERTILITY

Added fertility for domestic grass stands can improve forage production.

Fertilizing a crested wheat pasture in the fall allowed McCartney to put cattle on pasture 10 days to two weeks earlier in the spring than on similar pastures that were not fertilized.

Including alfalfa in pasture mixes improves production and reduces input costs, notes McCaughey. A forage blend that included 40 percent legume eliminated the need for 100 pounds of added nitrogen, which is a savings of \$30 to \$40 per acre depending on the price of nitrogen.

While there was a slight risk of cattle bloat, he figured the losses were more than offset by the improved beef gains.

The Greenhouse Gas Mitigation Program for Canadian Agriculture, an Agriculture and Agri-food Canada initiative delivered by the Canadian Cattlemen's Association (CCA), funds demonstration and communication projects which increase producers' understanding of management practices which reduce or remove atmospheric greenhouse gases.

For more information contact the CCA, visit the Web site at www.cattle.ca or contact Pat Walker, Beef Project Coordinator at 403-601-8991 or email pgwalk@shaw.ca.

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