

Case Study: Grazing Beef Cattle

Using intensive rotational grazing to reduce costs



Nova Scotia
Pasture
Improvement
Initiative

Holdanca Farms & John Duynisveld

Holdanca Farms is a multispecies farm on the north shore of Nova Scotia. John took over management of the family farm about 12 years ago, and became principal owner seven years ago. The farm started custom

grazing 150 head of cattle in the first year. Today John custom grazes 350 head of cattle, as well as his own 60 head herd. Sheep, turkeys, broilers, layers and pigs also graze on the farm.

Challenge

The main goal of the business has always been to produce a top quality product while reducing costs. To keep capital costs low, manure spreading was to be contracted out and all hay and grain was to be purchased. This would maximize the amount of pastureland available, and eliminate the cost of harvesting stored forage.

File Update:

TOTAL PASTURE AREA: 270 acres

BEEF HERD: 400 cattle

GRAZING: May to January;

Intensive rotation

Grazing Management

Excellent grazing management is key to high forage productivity. Pasture productivity was maximized by reducing the size of the paddocks, increasing the total number of paddocks available and by shortening the grazing time spent on each one.

The existing pastures were made smaller to intensify grazing and maximize forage use. In total, there are 100 paddocks covering 270 acres and each paddock is about two to three acres in size. Aside from the farm herd, there are another 300 to 400 head that are custom grazed every summer until the end of September or early October.

The cattle are grazed as soon as the weather is favourable, which is around the second week of May (though it has been as early as mid-April), or about two to three weeks after the frost is out of the ground. Although the ground is soft at this time, there is rarely any serious damage from hooves because the cattle are rotated quickly on to a fresh paddock.

The cattle are managed in four grazing groups: one large herd of about 160 head, two medium herds of about 85 head and the smaller farm herd. The larger group rotates through 30 paddocks, while the smaller ones rotate through 18 paddocks each. Generally, the cattle are moved daily in the spring, and every two to three days by mid-summer, depending on the growth of the pastures.



Fig. 1. A high stocking density encourages higher pasture productivity.

The home herd is able to graze late into the fall because there are several pastures that are stockpiled in mid summer. Stockpiling pastures is accomplished by withholding livestock from several pastures in the rotation and allowing the biomass to accumulate for at least eight weeks. By the end of October when most of the pastures have stopped growing entirely, the stockpiled pastures still have a large quantity of

forage available to be grazed. These pastures are then strip grazed once until all the forage has been consumed, or until they are covered in snow, usually by late November or December.

A pasture that is grazed properly becomes high yielding and develops a strong root system, because good top growth equals good growth below ground. The resulting strong sod can carry cattle better during wet spells, and the pastures are further protected from excessive hoof damage because they are frequently rotated.

In late fall, when little forage is available in the pastures, grazing continues in the form of bale grazing. The cattle are confined to six acres of pasture on which 200 round hay bales (600 lb each) are placed in rows. Electric fencing is strung between rows so that only a few bales can be accessed at a time, thereby reducing wastage. This method evenly distributes manure on a poorly producing pasture, and the residual hay chaff helps increase next year's forage productivity as well.

Bale grazing is used until the frost starts coming out of the ground in late February or March, at which time the cattle are confined to the barn until the ground dries up again. Extending the grazing season this long can significantly reduce the amount of stored feed needed, which decreases the overall carrying costs.

Fencing

All boundary and interior fences are made of high tensile electric fencing. While it is recommended that perimeter fencing have at least two strands of wire, most of the interior and perimeter fences on this farm only have one strand of wire because the cattle are moved frequently to a new paddock and the fence charger is large enough to maintain at least 3000 volts on the wires at all times.

Fertility management

Very little chemical fertilizer has been applied to the land since the early 1990s. Although a nutrient man-

agement plan has been created for the farm, the recommendations are not strictly followed primarily due to the cost. As a result, the fertility plan on this farm is very simple: the only nutrients added to the pastures are what the cattle leave behind as they graze, as well as nutrients brought in from the hay and feed provided to the cattle and other livestock. The high stocking density guarantees that the manure is spread over the pasture evenly. Grazing other types of livestock such as broilers on the cattle pastures adds nutrients and greatly improves the pasture content. The pH is somewhat low in certain areas however, and corrective measures will be taken.



Fig. 3. All types of livestock contribute to a healthy grazing system.

Water

All the pastures have access to well water from water lines that run from the barn underneath the fence line. In all pastures used after September, the water line has been buried four feet to prevent freezing. Taps have been placed at each paddock so that a hose can easily be connected to a portable water trough. The water tub moves with the cattle from paddock to paddock.



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