

WINTER GRAZING AND FEEDING SYSTEMS IN WESTERN CANADA

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Abstract

Beef cow calf producers in Western Canada are looking for methods of extending the grazing season into the winter in order to lower winter feed costs. Dry beef cows were early or late weaned and grazed during the early months of winter on late seeded barley swaths (*Hardlum Vulgare* L..) and compared to cows fed barley silage and free choice barley straw in a feeding yard. The swath grazed barley was late seeded in June and swathed in the silage stage in mid September. Cows successfully swath grazed for three winters from mid November until mid to late February with no major differences in animal performance. The swath grazing system has less labour, less stored feeding and handling costs and less manure hauling costs than cows wintered on stored feeds in a feeding yard.

Keywords: Winter grazing, swath grazing, beef cow grazing

Introduction

Beef cattle producers in Western Canada are looking for methods of lowering their winter feed costs as it is the most expensive part of the cow-calf operation. Normally, the winter feeding period is about 200 days from late October to mid-May with temperatures as low as -30°C to -40°C . Cattle are usually fed cereal grain silage, or hay, straw and limited amounts of barley grain. In addition to the costs of harvesting and storing winter feed, there is the cost of bedding with straw and hauling manure from the wintering area. Thus for every day a beef cow can remain grazing in the late fall or early winter, a financial saving can be realized.

Swath grazing a late seeded cereal grain crop during the winter months can provide a low cost method for extending the grazing season (Anonymous 1998). The cereal crop is seeded in mid-June and swathed in the soft dough or silage stage in mid-September just prior to the killing frost. Beef cows can then graze this forage through snow which can be as deep as 45 cm.

Early weaning calves and removing them from the pasture is another method of extending the grazing season for the beef cow. With the lower nutrient requirements of the dry beef cow the daily grazing requirements of the cow is reduced and the pasture season can thus be extended. Thus, early weaning and swath grazing could be a viable option for lowering winter feed costs. The objective of the study was to evaluate the effects of early and late weaning in combination with swath grazing vs. traditional feeding strategies on cow performance.

Material and Methods

Spring calving (March) Angus, Hereford and Charolais, Maine Anjou cows were early and late weaned in late August and late October each year. The early weaned cows remained on perennial pastures with the balance of the late weaned herd until late October. At that time the cows were allocated to the winter feeding treatments: (1) traditional winter feeding of barley silage and free choice barley straw or (2) swath grazing of barley cereal crop. This resulted in 2x2 factorial design with three replicates for each weaning and winter feeding treatment. The traditional winter feeding treatments were housed in 6 pens in an open faced barn from November until the following spring. The swath feeding treatment cows grazed six paddocks of AC Lacombe barley swaths from November to February. AC Lacombe barley had been planted in early June and swathed in mid- September. All paddocks were serviced by an all-weather watering system and bedding was provided to all cows. During February and March of each year, all swath grazing cows were placed in six pens in an open faced barn for calving. All treatment groups whether in pen or paddocks, were maintained throughout the study. Cows, that were culled because they were open at pregnancy check were replaced by extra cows that had been allocated to the same treatment. In those years when swath material remains in the field in the spring, cows were moved back onto the swath treatments to clean up the remaining forage. Cows were weighed, scored for body condition, and measured for back fat thickness at the 12th and 13th rib via ultrasound. Body condition score was a visual assessment of cow condition with one being very thin and five being very fat.

Results and Discussion

No major problems were encountered during the three years of swath grazing. Cows could successfully graze through the 40 – 50 cm of snow. The winters were relatively mild with variable amounts of snow and minimum temperatures in the -20° C range. Cows grazed the barley swaths from November 19th, 1997 to February 4th, 1998, November 18th, 1998 to February 17th, 1998 and Nov. 8th, 1999 to March 2nd, 2000. Cows on the traditional ration consumed an average 7kg DM barley silage and 9 kg DM barley straw per day. Swath grazing cows averaged 578 grazing days per ha. Cows that were early weaned had similar weight changes to the late weaned cows at the time of late weaning (Table 1). No major health or reproduction problems were observed in either group Swath grazing cows performed similarly to the traditional winter fed cows during the three years (Table 1). Swath grazing provide an alternative method for extending the grazing season into the winter with less labour, and less stored feed costs and manure hauling than cows wintered traditionally on barley silage and free choice straw.

References

Anonymous (1998). An introduction to swath grazing in Western Canada. Alberta Agriculture Food and Rural Development. Agdex 420156-1

Table 1 – Performance of beef cows on swath vs.straw/silage ration

	Cow #	Early Weaned			Late weaned			Off Swath		
		Weight (Kg)	BF(mm)	BCS	Weight (Kg)	BF(mm)	BCS	Weight (Kg)	BF (mm)	BCS
1997-1998										
Swath EW	18	637	9.1	3.7	639	●	3.5	663	7.4	3.1
Swath LW	18	655	8.5	3.6	634	●	3.4	675	7.3	3.1
Straw EW	18	655	7.6	3.5	652	●	3.5	705	7.2	3.0
Straw LW	18	650	7.7	3.7	623	●	3.4	670	6.9	3.3
1998-1999										
Swath EW	18	645	8.9	3.4	654	9.5	3.3	671	6.8	2.8
Swath LW	18	677	8.7	3.4	685	10.7	3.1	695	7.2	2.7
Straw EW	18	681	7.9	3.1	675	9.8	2.9	752	9.4	3.0
Straw LW	18	642	9.2	3.1	648	8.9	3.0	712	9.4	2.9
1999-2000										
Swath EW	18	664	7.7	3.1	683	9.6	3.5	654	6.8	2.6
Swath LW	18	705	8.2	3.1	724	8.8	3.3	690	6.5	2.8
Straw EW	18	712	8.1	3.1	727	9.3	3.2	737	8.3	2.8
Straw LW	18	685	9.4	3.2	701	9.1	3.1	687	8.5	2.7
EW – early weaned			LW – late weane							