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Cow-Calf Operations with Low Winter Feed Costs

Several factors influence the cost of feeding beef cows through the winter. From a cow herd standpoint, lighter, mature-weight females need less to maintain optimal health, and a larger herd can often benefit from economies of scale, lowering the farm's feed cost per head. Reducing days on feed by extending the spring and fall grazing period can lessen the feed needed for the winter feeding period.

The winter feed delivery method can contribute to the amount of feed waste, increasing the amount of feed per cow. Trampled feed in small dry lot paddocks raises the costs of feed. Round bale feeders may save on delivery costs. However, this can raise the costs of manure spreading and could lead to feed waste if the number of feeder locations is not plentiful, increasing the amount of trampled feed due to cattle competing¹. The delivery method impacts the fuel and machinery costs associated with winter feeding. Bale grazing in an existing hay field with bales left after harvest can reduce machinery and fuel costs versus feeding bales daily in the same field. But adds the costs of temporary fencing to prevent over-feeding. These trade-offs have to be compared to ensure cost savings.

Efficient homegrown feed production can lower costs relative to operations that purchase the bulk of their feed. The regional climate of the operation may dictate that a dry lot feeding system is more efficient due to heavy snowfall, as seen in Eastern Canada relative to Western Canada. Although an extensive winter grazing system (e.g. corn grazing, swath grazing or bale grazing) is often coveted as one of the cost-saving methods to feed cattle in the winter, these systems may not be feasible for all operations. In addition, the precipitation and humidity of the climate will dictate the type of feedstuffs that can be efficiently produced, such as haylage versus hay. Therefore, Eastern Canadian producers often have higher winter-feeding costs than Western Canadian operations following extensive winter grazing practices.

Question: How do the top third of Canadian benchmark farms in the CDN COP Network get their winter feed costs under \$700 per cow?

¹ BCRC. (2020, November 26) Eleven Ways to Avoid Feed Waste this Winter. Retrieved from beefresearch.ca: <https://www.beefresearch.ca/blog/eleven-ways-to-avoid-feed-waste-this-winter/>

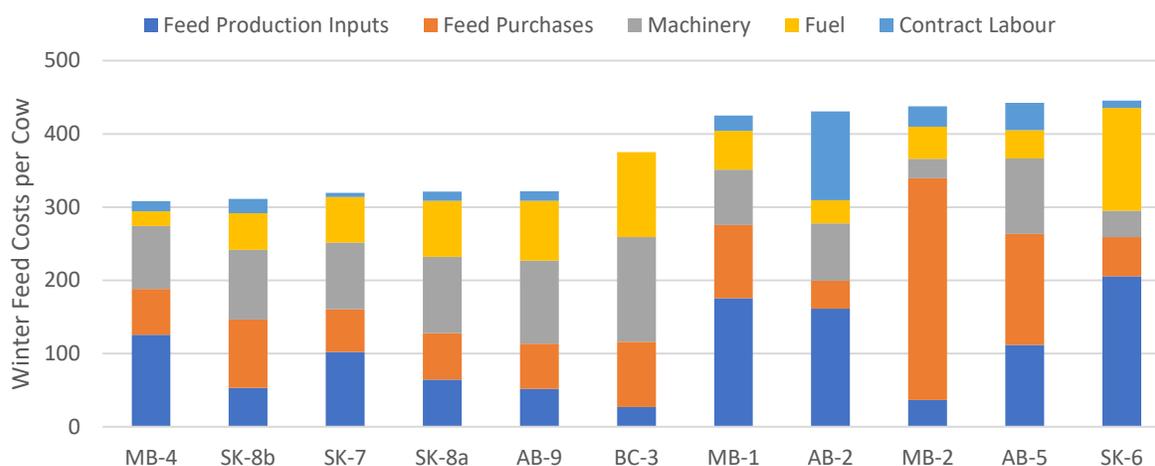
Key Drivers of Low Winter Feed Costs in Western Canada

The top one-third of Western Canadian benchmark farms maintain their winter feed cost per cow below \$500 per cow. The herd size of the benchmark farms in Figure 1 varies from 135 to 950 head, with some of the benchmark farms (SK-8a and SK-8b) benefiting from economies of scale by spreading the winter feed costs across a larger production herd. The mature cow weight varies from 1273 to 1480 lbs, with the lowest farm having a mature cow weight of 1400 lbs. MB-2 and AB-5 have mature cow weights of 1273 lbs and 1275 lbs, respectively. Although these benchmarks purchase a large proportion of feed, a smaller framed cow may help reduce the winter feed needed per cow.

The Western Canadian benchmark farms in Figure 1 predominantly use homegrown feed, including hay, silage, and greenfeed. These feedstuffs are often a supplement to an extensive winter grazing system, including corn grazing, swath grazing and aftermath cereal stubble grazing. Total winter-feeding days for these benchmark farms range from 150 to 250 days. The extensive grazing systems reduce their full feeding days, reducing the machinery and fuel needed to deliver feed daily to their herds. In addition, these operations primarily only purchase supplements (e.g. mineral, salt, protein tubs), keeping their purchase feed per-cow winter costs low. Most low-cost benchmark farms in Western Canada rely on efficiently producing their own feed to meet the herd's nutritional needs.

MB-2 is an outlier of the Western Canadian benchmarks, as shown in Figure 1, with feed purchases taking on a larger proportion of their feed cost by purchasing grain, protein pellets and a small portion of their forage in addition to mineral supplements. Their feed production input costs are all allocated towards corn silage production as their main feedstuff. The higher costs of the combined purchased feed and silage production make this benchmark farm have a slightly higher winter feed cost per cow, but are on the low end across all the benchmark farms at \$438 per cow. This benchmark illustrates that they can efficiently produce corn silage with lower input costs.

Figure 1. Winter Feed Cost Breakdown for Selected Western Canadian Operations



MB-1, AB-2 and SK-6 are all examples of farms utilizing multiple winter feedstuff, including extensive grazing (e.g. swath or standing corn), hay or haylage, straw and barley grain. By producing this extensive feedstuff list, these benchmark farms have higher feed input costs than the other benchmarks in Figure 1.

Overall, the Western Canadian benchmarks focus on achieving low winter feed costs through: achieving economies of scale, having smaller framed mature cows, lowering the full feeding days needed, and efficiently producing homegrown feedstuffs to meet their cattle's nutritional needs.

Key Drivers of Low Winter Feed Costs in Eastern Canada

Extensive Grazing and Days on Feed

One of the most cost-efficient Eastern Canadian benchmark farms is from the Maritimes. This farm (MT-5) reduces winter feeding costs by utilizing corn grazing and supplying their cattle with grass silage and hay. These benchmark farms can reduce their feed costs through corn grazing by saving on fuel annual harvesting costs. In addition, MT-5 reduces their winter feeding days to 150 days by extending their grazing period, often accomplished through rotational grazing to help increase the stocking rate. Operations can reduce the cost per cow wintered by reducing days on feed. However, the Eastern Canadian farms in the top one-third of lower winter feed costs per cow in the CDN COP network had days of feed varying from 150 to 240 days. Therefore, this demonstrates that reduced days on feed are not the sole indicator of reducing winter feed costs.

Matching the Feed System to Your Climate

The second most cost-efficient Eastern Canadian Benchmark farm is from Ontario (ON-5). This farm takes a different approach by growing corn but producing silage and having 212 feed days. This farm spends slightly more on fuel and machinery to harvest their annual crop and winter feed trips. However, with winter feed costs at \$388 per cow, this farm efficiently produces their own feed. Due to climate, this benchmark farm may be limited to a primarily dry lot feeding system, not allowing for a winter-long extensive grazing period. Illustrating the importance of matching your feeding system to your regional climate and weather pattern (e.g. deep snow) for the greatest feed efficiency. However, according to a BCRC report, there are examples of producers in Eastern Canada feeding their cattle through extensive feeding systems (i.e., Bale, Corn, and Swath grazing) on annual cropland to help reduce manure spreading costs (BCRC,2022²), showing the possibilities of reducing feed costs while maintaining a healthy herd.

Strategic Purchasing of Feedstuffs

The most common feedstuff cow-calf herds receive is hay. By producing hay efficiently, operations can reduce costs relative to purchasing hay. The highest cost operation under the \$700 per cow wintered cost mark is QC-2. This Quebec operation purchases 30% of their hay, significantly raising their purchased feed costs by \$358 per cow wintered (with the total per cow

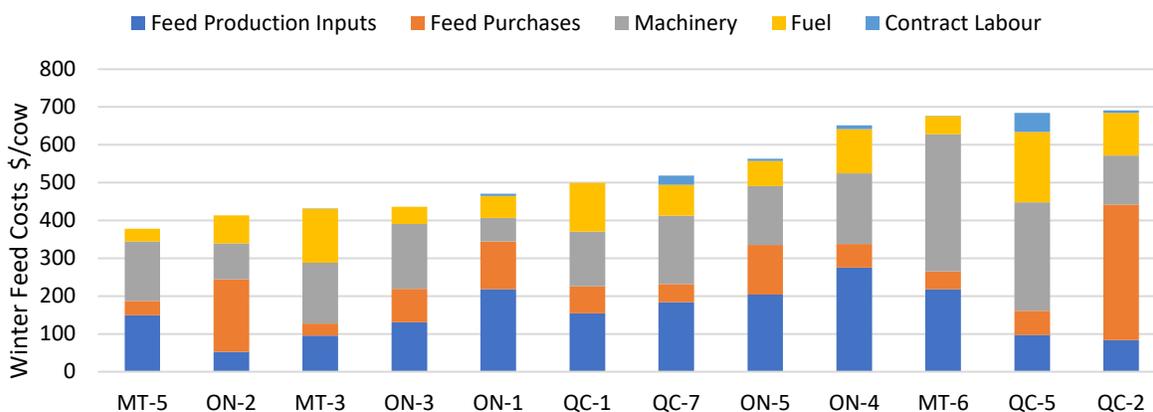
² BCRC. (2022, August 16) Strategies for Fall and Winter Grazing: Eastern Canadian Perspectives. Retrieved from beefresearch.ca: <https://www.beefresearch.ca/blog/fall-winter-grazing-in-eastern-canada/>

winter feed cost at \$691). This shows the cost difference between purchasing and homegrown hay. Operations in regions with high costs of production may benefit from purchasing hay from surplus production areas to reduce costs.

ON-2 is a farm that produces efficient hay and supplements with purchased corn distillers' solubles to meet their cattle's nutritional requirements. ON-1 is another example of a benchmark farm purchasing corn screenings as a by-product feed supplement to their homegrown hay. Using an alternative upcycle feedstuff, such as distillers' grain, can reduce the cost per ton purchased compared to a whole grain like barley or oats.

In addition, most Eastern Canadian operations wrap their hay to make haylage due to humid and rainy conditions not allowing the hay to dry fully. The additional cost of wrapping hay, including labour, wrapping materials and fuel to run machinery, increases expenses compared to operations in dryer climates.

Figure 2. Winter Feed Cost Breakdown for Selected Eastern Canadian Operations



What does it mean to Produce Homegrown Feed Efficiently?

Matching the feeding system to the operations climate is key to reducing wasted feed and ensuring that cattle meet their nutritional requirements. After an operation has the feeding system dialled in, they can focus on efficiently producing the desired feedstuff.

A consistent re-seeding and fertilizer program can help reduce hay or haylage production yield loss. For annual crop production, contracting out labour for machinery to produce silage may be more viable than purchasing your own equipment, as observed by MT-3. QC-7 also feeds corn silage but efficiently produces silage with their own machinery and labour at a slightly higher cost per acre (about \$40 more per acre).

The benchmark farms producing efficient homegrown feed also share some overhead costs with multiple enterprises, such as cash crop and forage production. The CDN COP Network's generic allocation for mixed operations with increased revenue from their cash crop enterprise allocates



a larger portion of machinery and other feed-associated costs, lowering the allocation of the same costs toward the cow-calf enterprise.

Conclusion

There is no one-size-fits-all to reduce winter feed costs per cow. The key indicator was efficiently producing or purchasing lower-cost feed.

Each of the top one-third performing benchmark farms in Canada had different strategies to achieve their low feed cost, including:

1. Larger herd to benefit from economies of scale, reducing cost per cow
2. Smaller framed mature cows to reduce the needed feed per cow
3. Reduce full winter feeding days through extensive winter grazing systems
4. Focusing on matching the feed system to their regional climate
5. Matching their most efficiently produced feed production system to fill the needed feedstuff
6. Purchasing only needed supplements when the majority of feed is homegrown
7. Strategic purchasing of feed when there is a gap or high cost of production to reduce ration costs.

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