

### *Tips on Overwintering Beef Cattle*

*Recognizing the ongoing challenge of overwintering beef cattle, the Farm Animal Council of Saskatchewan (FACS) and Western College of Veterinary Medicine (WCVM) decided to act.*

*The two organizations, with initial support from the Saskatchewan Ministry of Agriculture, invited leaders from industry, academia, and government to two valuable open discussions regarding inadequate management of overwintered beef cattle.*

*Participants identified education related to feed quality, in the form of consistent and repetitive messaging, and support of cattle producers as crucial to ensuring adequate overwintering of beef cattle in Saskatchewan.*

*This article describes feed quality, while the Animal Welfare section of FACS website ([www.facs.sk.ca](http://www.facs.sk.ca)) contains information about Body Condition Scoring, a valuable tool for estimating the amount of energy reserves (body fat) an animal is carrying.*

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## **Feed Testing - Know What You've Got!**

Anyone who's battled the elements and endured winter on the Prairies understands all too well the challenges that the season can create. Feeding animals through the winter months brings its own set of management considerations. As livestock producers, first and foremost we task ourselves with providing for the needs of our animals. That includes ensuring feed **quantity** and **quality**, regardless of the feed or forage source.

Management strategies and available feed sources are often very different from one operation to the next or even for a particular farm or ranch from one year to the next. Within our industry, there has been a move towards more extensive feeding systems including options such as stockpiled grazing, bale grazing, and swathgrazing, just to name a few. These management systems are often implemented for a number of reasons, including reducing costs. However, a key guiding principle remains the need to provide a source of feed or forage which adequately meets the nutritional requirements for the specific type or class of livestock.

Whether talking about a bale of hay or a forage swath in the field, it is absolutely essential to know exactly what you've got – both in terms of quantity and quality. Undoubtedly, the provision of adequate forage and/or feed supply for animals through the winter months, and during the entire year, is critical. As temperatures drop and environmental conditions become less than desirable, beef cattle need to be able to consume enough feed to meet their needs. We can relatively easily measure or estimate tonnes of hay, pounds of forage per acre or kilograms of grain or supplement and match that against the number of animals relying on that feed source. It's when we begin to assess the quality side of the equation that we may need to challenge our current methods. What we see with the naked eye when we look at a bale of hay or a handful of feed does not tell us enough.

Feed testing is an important component to any feeding program and is the only way to know the true nutritional value of a feed source or forage supply. A feed test can determine how that feed or forage may affect the animals and assist us as managers to balance supplies with animal requirements.

When talking about feed or forage quality we are referring to the amount of energy, fibre, protein, minerals and vitamins that are available. Each of these elements is essential for maintenance and productivity of the beef animal.

The most common measure of energy is Total Digestible Nutrients (TDN). As an example, the average beef cow requires 55 percent TDN during mid-pregnancy, 60 percent during late pregnancy and 65 percent after calving. One misconception when considering winter management of beef animals is that as temperatures drop, a beef cow will simply eat more to meet her energy requirements. In many cases, due to the high fibre content of many low energy forages, a cow can not eat enough to meet her energy needs. The higher the fibre in the feed source, the longer it takes to digest and consumption becomes limited. It is in this situation that we see animals with lots of feed in front of them yet requirements are not being met. Forages harvested at late stages of maturity and exposed to weathering should be tested for neutral detergent fibre (NDF) levels to assess any potential intake limitations.

Forages contain varying amounts of protein, energy and minerals depending on stage of growth when harvested, growing environment, harvesting conditions, and variety (i.e. legume, grass or straw). As shown in Table 1, the nutrient content of alfalfa is different from brome grass which is different from barley straw. If we understand the needs of the animal and what is available in the feed or forage, we can develop a management strategy that balances the two. For example, with this knowledge we can add higher quality forage to the diet or supplement with grain or pellets if more energy is required.

**Table 1. Average forage feed values (100% dry matter)**

Forage	Crude Protein (% dry matter)	Total Digestible Nutrients (% dry matter)
Alfalfa hay, early	18	59
Alfalfa hay, late	16	53
Brome grass hay	10	55
Barley straw	3	46

*Source: Bodycote Testing Group, Adapted from NRC Nutrient Requirements for Dairy Cattle, 1993.*

When sampling feeds for testing and nutrient analysis, it is important to take a representative sample from the feed source. Table 2 provides general recommendations for sampling of various feed types. Each type of feed should be analyzed separately. Forage samples should be taken from a number of bales and the more variable each type of hay is, the more samples that should be taken. A feed probe works best for collecting samples but isn't necessary. Along with your sample you will need to complete an information form as to the type of sample, type of livestock being fed and the analysis desired.

**Table 2. Sampling Procedures**

<b>Sample</b>	<b>Procedure</b>
<b>Grains</b>	<ol style="list-style-type: none"> <li>1. 3 samples/truck load</li> <li>2. 10-12 probes per bin</li> </ol>
<b>Silage</b>	<ol style="list-style-type: none"> <li>1. Probe 15-20 locations in silo/pit</li> <li>2. Grab Sample: 5-6/feeding for 3 feedings. Collected samples should be kept refrigerated or frozen in air tight bags.</li> </ol>
<b>Hay/Forages</b>	<ol style="list-style-type: none"> <li>1. 15-20 locations in stack</li> <li>2. Greater than 20 bales: sample 10% of number of bales</li> <li>3. Less than 20 bales: sample all bales.</li> <li>4. Combine all samples into a final sample volume the size of bread and submit for testing.</li> </ol>

Feed testing is an extremely valuable and low-cost management tool for all beef producers. When we know where deficiencies exist, we can be proactive and avoid any potential problems before they develop. By working with one of the many nutritionists, agronomists or veterinarians in your area you can make adjustments in your feeding or grazing program to provide a balanced diet meeting the nutritional requirements of the entire cow herd. The end result will be healthy, productive animals and an economic bottom line that makes wise use of the feed resources available on your operation.

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