



# DEVELOP A WINTER FEEDING PROGRAM FOR UNDER-CONDITIONED COWS

[www.BodyConditionScoring.ca](http://www.BodyConditionScoring.ca) Fact Sheet Series

## Research Findings

SK Forage Quality 2013 Survey Results



**38% of feed samples** satisfy energy requirements of last trimester of gestation

**5% of feed samples** satisfy energy requirements of last month of gestation

At -25 degrees Celsius, only 38% of forage samples from across the province would meet the energy needs of a cow in the last trimester, and only 5% of samples would meet energy requirements in the last month of pregnancy. Even fewer forage samples would meet requirements as forage quality declines in a swath.



Feeding beef cattle during Canadian winters is a challenge. Frame size, body condition, feed quality, types of feed, and temperatures all impact feed consumption and rate of gain. Over-feeding is costly and wasteful; under feeding is harmful to body condition as well as short- and long-term reproductive performance.

If your cows' body condition scores (BCS) are lower than you'd like (below 2.5), adjustments to the feeding program should be made no later than 60 days before calving. The earlier you make changes, the more likely you will be to succeed in having a large, uniform, valuable calf crop.

As gestation progresses through the colder months of winter, adding condition becomes increasingly difficult and expensive, especially with heifers because they are still growing. Cows in late gestation or lactation will have 20-45% higher energy and 40-80% higher protein requirements than cows in mid-gestation. For cows fed to gain ½ a BCS over the winter, feed costs will be 20-30% higher, so it is best to increase condition prior to winter.

Having less fat, thin cows need more energy to keep warm. An additional 1200 lbs of hay is needed to feed a cow with a BCS 2 compared to a cow with a BCS 3 through the winter. If possible, wean the calves from thinner cows prior to heading into colder weather – this will reduce their energy requirements and make it more economical to increase their BCS.

Extended grazing systems such as swath grazing need to be managed carefully, and may not be an option for cows in poor BCS. Extended winter-feeding systems can require up to 18-21% more energy due to increased foraging, so thinner cows may not be able to put on condition while swath grazing.

Similarly, feeding straw or other poor quality forage to thin cows will not provide them with adequate energy to build up fat reserves. Cows will eat great amounts of poor quality forage, and this can increase the potential for impaction due to the low protein content. If thin cows can be fed and managed separately, there will be a much better chance of improving their BCS prior to calving.

Energy is generally the most limiting nutrient in winter rations, however protein can also be of concern, especially in late gestation. By separating the thin cows from the rest of the herd, you have an opportunity to feed higher quality forage or grain to the cows that need it, while preventing wastage by cows that don't.

## Sample Ration

for a 1300lb mature cow

★ Mature cow in mid-late gestation gaining 0.25 lb/day in winter conditions might be:

### Ration 1 (at BCS 3)

- ◆ 20 lbs grass hay
- ◆ 11 lbs oat or barley straw
- ◆ appropriate minerals and vitamins

### Ration 2 (at BCS 1.5)

- ◆ 22 lbs grass hay
- ◆ 5 lbs oat or barley straw
- ◆ 4 lbs barley grain
- ◆ appropriate minerals and vitamins



In order to improve condition, you need to know what exactly your cows are getting from their feed. This can be easily and relatively inexpensively accomplished with a feed test.



Learn more about feed testing at

<http://youtu.be/rb909Z3A1EM>

Forages can vary wildly in nutritional quality from year to year and even within the same field. Near infrared spectroscopy (NIRS) measurements are cheaper and have a faster turnaround time, but are less accurate for mineral content.

Once you've figured out the nutritional value of your feed through a feed test, you can use a ration balancing program (e.g. CowBytes), or talk to a nutritionist, your veterinarian, or an extension specialist to best formulate your winter ration.

To increase BCS on thin cows, you will need to provide supplemental feed. The general guideline is that a one BCS improvement requires about 7 lbs of barley or 11 lbs of good quality hay per day in addition to the amount the cow requires for maintenance over the winter feeding period.

Additional barley or good quality forage is needed during periods of cold weather. A rule of thumb is to provide an extra 1 lb of grain or pellets per day for every 5 degrees the temperature is below -20 degrees Celsius at mid-day. The amount of grain or pellets should be increased if the cows are exposed to windy conditions or are wet. Grain should be introduced slowly, and with consistent availability as to not upset the rumen.

Winter rations should also include salt, minerals, and vitamins. Provide fortified trace mineralized salt free-choice. Rations consisting of legume or mixed legume/grass hay should be supplemented with a 1:1 calcium phosphorus mineral, while rations of green feed, cereal silage or straw/grain mixture should be supplemented with a 2:1 calcium phosphorus mineral, plus 2-3% magnesium. Mixing mineral with the feed helps to ensure consistent intake, but is not always possible. After forages are harvested, vitamin precursors oxidize and aren't available to the animal, so a winter ration should contain 100% of the vitamin A, D and E requirements (most products provide the proper ratios). Again, a feed test will help you to economically provide the most appropriate mineral and vitamin supplementation.

For more information about body condition scoring, explore the training materials and interactive web tools at [www.bodyconditionscoring.ca](http://www.bodyconditionscoring.ca), talk to your veterinarian or consult a beef extension specialist. If Internet access is an issue call 403.275.8558, ext. 302 to receive all the information and interactive tools on a free USB data stick that plugs into your computer.

A collaboration between:



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