

Feeding Bison Cows

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Our goal as a producer should be to ensure a good conception rate and a healthy crop each year. One of the best ways to ensure that this is achieved is to provide good nutrition to your cow herd on a yearly basis. The feeding of bison cows for optimal production is a topic for which there is very little scientific information available. So far, nobody has calculated the exact nutritional requirements for bison. Most of what we know has been learned from experience or extrapolated from beef cattle information. Trial and error has been our main teacher. In this article I will try to cover some of what has been learned about feeding bison cows so that this can be used as a guideline to establish a yearly feeding program.

Murray Feist with Saskatchewan Agriculture, Food and Rural Revitalization has developed some guidelines for bison nutritional requirements. His publication called *Basic Nutrition of Bison* is a good source of information on bison nutrition as he has summarized what is currently known about feeding bison into one document. It is available on the Saskatchewan Agriculture, Food and Rural Revitalization website at: <http://www.agr.gov.sk.ca> . Also, the Bison Centre of Excellence has some information on feeding bison in their resource library. It is available at: www.bisoncentre.com .

The first thing that a person must understand is that every class of livestock has different nutritional requirements at different times of the year and during different stages of production. A dry cow in the middle of winter has different requirements for energy and

protein than a recently calved cow in the spring. Bison are no different and may even have larger seasonal fluctuations than other species. Years of surviving on low quality winter diets means that bison cows can live on fairly meager diets in the winter. They do, however, need to compensate for this in the summer or else herd fertility rates will be disappointing.

This table adapted from Murray’s publication estimates the energy and protein requirements for bison cows at different times of the year.

Age	Time of Year	TDN (Total Digestible Nutrients)	Crude Protein	Dry Matter Intake (% of body weight)
Dry Cow in Winter	December-March	48-50%	8%	1.6-1.8
Late Gestation	April-May	54-58%	8-10%	2.0-2.5
Cow nursing a calf	May-November	54-58%	8-10%	2.5-3.0

To make some sense out of this table, I will point out a few things. This table illustrates that bison cows highest nutritional requirements are in the spring and summer. During this time they are nursing their calves which requires a lot of energy and protein. They are also replacing their fat stores so that they have the ability to breed back to calve the following year. This is the most critical time to the feeding program of a bison cow. If she is too thin when the rut begins in July, she will not conceive. In wild bison, it is common for them to calve every second year because their nutritional requirements were not met in order for them to rebreed.

Fortunately, the time of year that bison have their highest nutritional requirements is the time of year that the pastures are providing the best nutrition. When the rains are plentiful and the pastures are good, cows will receive all of their nutritional needs from grass. If pasture conditions are poor, it is up to you as a producer to supplement the cow's diet with grain or other appropriate feed in order to ensure high conception rates.

Flushing is a term that is used when females are given a high-energy diet for several weeks prior to breeding season to increase conception rates. Experience has shown that bison respond well to this management practice. Flushing can be accomplished with good pasture through rotational grazing or supplemental feeding.

After breeding season bison cows continue to have relatively high feed requirements as they are still nursing their calves and are trying to increase their body condition so that they are fat going into winter. It is normal and economical to have cows gain weight in the summer and fall and then lose some of the weight slowly over the winter. This helps save money on winter feed bills. Many farmers aim to have their cows lose 10% of their body weight over the winter. I caution people that this is OK as long as their cows are fat in the fall. If cows are thin in the fall, they can't afford to lose any weight over the winter.

Cows have their lowest feed requirements in the winter. Their protein and energy needs can be met with coarse hay, a hay/straw mix, or by grazing stockpiled grass under the snow. It is important to not feed your cows too much over the winter. Calving difficulties

can occur if your cows are too fat in the spring. You should aim to have your cows lean in the spring but not too thin. Cows that are too thin at calving time will not be able to gain enough weight by breeding season to conceive.

During the final months of gestation, a cow's nutritional requirement goes up slightly. This increase is due to the demands of the fetus as it is growing rapidly at this time. It is a good idea to save some of your better hay until this time of year.

In this article, I did not mention the mineral requirements. Minerals are an important part of a bison's diet and it is important that they consume enough of each mineral on a regular basis. The reason for not including it in this article is because the cow's requirements remain fairly constant throughout the year. There is little fluctuation through the seasons therefore it is important to ensure that bison receive mineral supplementation year round. The key times of the year when mineral supplementation are the most important are just prior to calving and breeding seasons. Adequate minerals at these times of the year will help ensure healthy calves and high conception rates.

Giving specific instructions for feeding bison cows is difficult to do because everyone's feed supply is different. If you follow these general guidelines, use the information available in *Basic Nutrition of Bison*, and consult with for local livestock nutritionist you will be able to design a feeding program that fits your herd.