

Animal Management and Animal Welfare at the Snake River Farm PART 2

This letter follows one which I emailed on February 22, 2014, under the same title, "PART 1"

If you did not see that letter, you can find it easily on Sarah's blog.

www.sandhillfarmsarah.wordpress.com

In the first letter, I wrote briefly about the herd structures formed by the animals we raise. That includes bison, cattle, horses, hogs and sheep.

I have changed my writing plan in response to questions and comments from you.

Some of you requested more information about livestock.

Michelle requested that I include goats. I have raised goats a number of times but I cannot claim to know goats well. Nevertheless, I will include information about goats whenever possible.

In this letter, I will write about animal care in winter.

Winter feed and keeping warm.

Four of the livestock species I am writing about, bison, cattle, sheep and goats are ruminants. Ruminants have complex stomachs that allow them to prosper on roughage. That means grass or grass hay primarily.

The digestive process of rumination produces heat as a by-product. Bacteria in the animal's stomach generate that heat. The bacteria are there to aid indigestion. The bacteria break down complex fiber.

The generation of excess heat is terrifically important to ruminants in winter.

Technically horses are not in the ruminant family, but horses also have a complex digestive system that produces heat.

The ability to produce heat during digestion, coupled with a winter coat of hair allows these animals to be comfortable in the coldest weather. They are not just getting through the winter. In fact, these animals are most comfortable at temperatures much colder than the temperatures at which humans are comfortable.

This is in fact one of those areas where treating animals as we would like to be treated is a mistake.

Since, this extra heat is a byproduct of ongoing digestion it is important that the animals have palatable hay and freedom of movement available at all times.

That is particularly important for horses. Horse stomachs are very small compared to their overall size.

Most of horse digestion and especially the portion involving heat generation occurs in their intestines.

During extreme cold, horses need to eat frequently, day and night.

Cattle and bison have large stomachs. They do not need to eat as often as horses. Nevertheless, in very cold weather our cattle are at the hay bales much of the day. They go back to the bales several times during the night.

All of these animals grow excellent winter coats, if properly acclimated. That means they should be outside as the fall turns to winter. If so, their bodies respond naturally to the seasons.

Bison grow an especially wonderful winter covering. Their hair count per square inch of hide is significantly higher than other animals.

Occasionally, I see horse blankets on horses in cold weather. In general, that is a bad practice. A blanket will prevent the horse from acclimating to the weather. Its body will not know whether to grow winter hair or which parts of its body to cover. On nicer days, the coat may actually cause overheating. Horses grow a coat to keep warm. They sweat to cool off. They roll in the dirt or snow and shake their skin to arrange the space between their hairs for comfort. Interfering with natural functions is seldom helpful to them.

I recently read an article that made the claim that bison coats work so well that fallen snow does not melt off. Actually, that is true for properly acclimated horses and cattle too.

I will post a couple photos of animals in winter on our facebook page.

Link to our Facebook page.
[Snake River Farm Minnesota on Facebook](#)

Winter Shelter

With good hay and water continuously available, and with a natural coat, bison, horses and cattle are healthiest and most comfortable outside.

It is good to have a wind break for horses and cattle during blizzard-like weather. A shed closed on two or more sides is nice. A thicket of trees and brush may work as well.

Bison have no need for a shelter and they will not use it if provided.

Sheep and especially goats need better protection. An open shed or well ventilated barn is best.

A shed (roof) for cattle or horses is needed only during wet cold weather. Those days generally occur in the fall and spring during the change of the seasons.

In fact, the coldest conditions for acclimated animals occurs when it is in the low 30s with rain or wet snow. Then water eventually soaks into their hair and cancels the insulating effect of their coats.

Contrary to what you may think, nice warm barns are generally unhealthy places for animals.

Closed barns exist primarily for the comfort of the farmer.

Pigs cannot acclimate to winter in Minnesota. The simplest proof of that is the fact that feral hogs are a wildlife problem in 40 states but not here.

Hogs do not have the heat producing advantage of ruminants. Their digestive systems are much like our own. In addition, hogs have a wiry hair coat that is not adequate for cold weather.

There are many pigs in Minnesota during winter but they are in enclosed barns.

We do not keep pigs in winter. It is just simpler that way.

Water for our herds in winter.

Winter pastures have access to the Snake River at all times. The river is spring fed and the water is 43 degrees winter and summer. I take care that winter access does not damage the stream banks. Stream banks are protected by frozen ground.

Lori asked about animals eating snow. It is natural for animals to eat snow, particularly horses and bison. Every day the horses casually eat snow while standing only a few feet from running water. They especially enjoy fresh or falling snow. Both bison and horses and to a lesser extent cattle can do well for months or even an entire winter without access to open water. They must be acclimated, they must have unlimited forage and they should be in a low stress situation that is well known to them.

I do not recommend it, however.

Bison, horses and cattle will graze in winter if possible.

Animals prefer to eat the grass that remains in their pastures if they can get to it. Bison and horses are well equipped to dig to grass in winter.

Horses use their solid hooves, front feet mainly, to clear snow. In the wild, in conditions of deep snow, horses may actually wear their hooves bloody by winters' end.

American Indians, who did not store winter hay, cut poplar trees so their horses could eat the palatable bark and buds. Not great feed, but no doubt it helped the horses survive.

In large part, bison look the way they do because of their strategy for survival on the northern plains.

Bison skulls are relatively large for their overall size. To dig for grass under snow, bison drag their heads from side to side. The distinctive bison hump is an anatomical structure required to hold the large skull.

Cattle too, are eager to eat grass in winter. Unfortunately, they are not as well equipped as bison or horses for digging through snow.

Cattle have cloven hooves. A split hoof is not suited to digging. Snow and ice quickly pack into the delicate space between their toes. Cattle do well if forage is easily reachable.

In summary, open water and hay is available to the bison, cattle and horses at all times in winter.

Horses and cattle have open sheds available.

We keep no hogs through the winter.

We keep a flock of poultry, mostly laying hens and a few rabbits through the winter. They are in a closed and heated coop, with heated water and an outside run. The outside run is enclosed for their protection. Predators of all types are desperately hungry in the season.

I will try to write the next segment within a week.

Your feedback is welcome and helpful.

Best regards.

Tom