



*Those clear blue Wyoming skies in the winter can make for some pretty brisk temperatures and often signal the coming of a very cold night. Add a little wind and it can get downright frigid. It is important to make sure your horses have what they need to deal with the cold.*

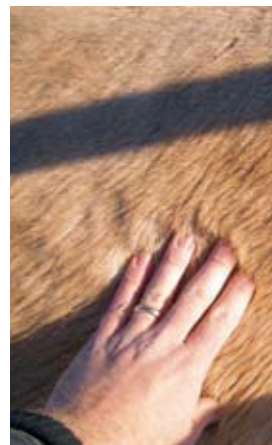
## Owners can help horses defend against bitter cold air

**S**ure enough, it happened again...the temperature dropped and Old Man Winter arrived!

Ever since that happened, it does not seem to be near as fun or near as easy to take care of the horses or saddle up and go for a ride. This sure makes it tempting to head for the house for a cup of hot chocolate or coffee, eh? Before you do, please make sure your horses have what they need to deal with the cold, too.

Horses are warm-blooded, like we are, and they rely on the use of body heat to keep warm. As it gets colder, they spend more energy maintaining their body temperature, so it is very important to feed them adequately. Everyone knows animals with a coat of hair have an advantage over us because that hair helps to insulate them. This deserves a little more thought. The way a coat of hair works is that it creates a layer of still air around the surface of the body, so it makes sense that horses and other animals "hair-up" in the winter. This makes the insulating layer thicker and allows the animals to keep warm.

But what happens when the wind blows or that hair coat gets wet? You guessed it...when this happens, the coat loses much of its insulating ability. The effects of wind and water on a coat of hair become clearer when the lower critical temperature is considered. The lower critical temperature is the point where animals really have to increase their rate of metabolic heat production to maintain their body temperature.



*Horses should "hair-up" in the winter and take on a fuzzy look. This roan horse is starting to develop a good winter coat which will help him keep warm. Remember, a heavy coat of hair will also mask a horse's true body condition, so be sure to feel the condition over the ribs periodically to make sure the horse is getting adequate nutrition and maintaining good body condition.*

For horses with a wet or short (summer) coat, the lower critical temperature is 60 degrees Fahrenheit! Horses with a moderate coat have a lower critical temperature of about 50 degrees, and those with a good winter coat have a lower critical temperature around 30 degrees.

When temperatures outside fall below the lower critical temperature, the nutritional (maintenance) requirements of horses can be expected to increase at the rate of 1 percent for every 1 degree Fahrenheit below the lower critical temperature. So, assume our horse has a good winter hair coat and therefore a lower critical temperature of 30 degrees. If it gets down to zero degree, which is not unheard of, that animal's nutritional requirements can be expected to increase by 30 percent! Add some good ol' Wyoming wind or a wet/short hair coat into the mix and look out!

There is a limit to how much feed a horse can consume and process, so it soon becomes obvious we will not always be able to address increased nutritional requirements just by throwing another flake of hay over the fence.

This brings about the importance of shelter. Providing horses with a place to escape the wind and avoid getting their coat wet is a great help.

When horses are worked in the winter, especially if inside a barn or indoor arena, keep in mind what was just discussed about the hair coat. If they have worked up a sweat in the barn, let them cool down and dry off in the barn before taking them out into the cold. Allowing horses to roll in the arena can help them dry off and fluff their hair back up. Remember, sweat results in a wet hair coat having far less insulating ability. If horses have to go right out into the cold, consider the use of a horse blanket to help keep the animals warm.

What about water? Sick of breaking ice? Wouldn't it be nice if horses could get the water they need by eating snow? This is a fairly common question, and the best answer is DON'T COUNT ON IT! Some horse experts from the University of Nebraska-Lincoln estimate a horse might have to eat around 72 gallons of snow each day to get the

water they need. When I look at the range of water contents for snow we get in Wyoming, it could take up to 240 gallons of snow to meet the daily water requirements of a horse.

Even if they could eat that much snow, they would then need to spend metabolic energy to melt the snow and raise that water to body temperature – it's a losing proposition. Get your horses a water tank with a tank heater.

Very cold water can cause problems too. Ideally, water temperature should be maintained between 45 and 65 degrees. Some horses will stop drinking or drastically reduce their water consumption if water is too cold, which can lead to a greater possibility of problems with impaction and colic. Sadly, some very good friends of mine lost a horse two years ago because it stopped drinking, presumably because the water was too cold.

In closing, be sure to remember the basics this winter when caring for your horses. Make sure they have adequate amounts of quality feed and water. Provide them with some type of shelter that allows them to get out of the wind and help keep dry. Finally, keep in mind how their coat of hair works and do what you can to help your horses keep warm! They might not thank you for it, but they should!



*Ensuring horses have a place to get out of the wind and help keep dry is an important part of winter care. This nice barn is something many of us wish we had, and one like this will darn sure protect horses from inclement weather. But keep in mind that a shelter does not need to be this fancy (unless you live in an area with covenants that require it!).*

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