

# Winterizing Horses

By [Nancy S. Loving, DVM](#) Nov 1, 2012

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*Take a few simple precautions and management approaches to help your horse weather winter safely.*

Looking out upon a wintry farmscape it's common to see equine forms silhouetted against the snow, huddled against the wind. Or, you might glimpse the glow of lights from a barn housing blanketed equine charges. In northern climates winter generally is a time of slowed activity for both horse and rider, but attentiveness to horses' health and management is just as crucial during these



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chilly months as it is during the warmer ones.

How should you prepare your horse so he will thrive in winter and emerge from it in robust condition, ready for a busy riding season? Let's look at some steps you can take to protect your horse's body systems.

## **Protect and Support Respiratory Health**

Horses evolved as plains animals, well-equipped to deal with wind, cold, and snow. Nonetheless, horse owners like to protect their charges from the elements, often building complex stabling structures to keep them sheltered and warm.

"When horse function was equivalent to automobiles, we put them in the barn at night after being out all day plowing fields, transporting people, pulling wagons," says Eileen Fabian Wheeler, PhD, professor of Agricultural Engineering at Pennsylvania State University. "Now the situation is the opposite: Many want to keep their horses in the stable 23 hours a day with one hour a day in work. It seems we have lost perspective on the purpose of a horse stable."

One of the downsides to stabling around the clock in winter stems from poorly ventilated structures: "Closing a stable up tightly traps stale air pollution inside with accumulation of urine ammonia, endotoxin particulates from manure, dust, and molds from hay and bedding--these pollutants challenge the equine respiratory system," says Wheeler.

So if you plan to keep your horses stabled this winter, keep in mind that inhaled ammonia can destroy their airways' epithelial lining and contribute to the development of respiratory diseases such as inflammatory airway disease (IAD) or recurrent airway obstruction (heaves), says Wes Elford, DVM, an equine practitioner from Mayville, Wisc.

First determine whether your barn's ammonia levels are high, and then take steps to improve air quality. Wheeler recommends smelling the air as you enter the stable: "Ideally, you'll enjoy a light essence of hay and horse rather than wrinkling your nose at a pungent urine odor," she says. "If you smell ammonia, then it's already too high. While it's desirable to keep ammonia levels less than 10 ppm, the human nose won't detect its odor until at least 20 ppm."

She further stresses the importance of considering a horse's usual breathing zone when assessing air quality; respiratory pollutants are greatest at foot level and especially in stalls. "It is not uncommon for the working aisle of a stable to have much better air quality than the stalls," she says.

You might be inclined to don five layers of clothing and want to seal up the barn for warmth, but Wheeler notes that "even during the worst winter days, cold, dry fresh air is desirable and comfortable for horses. While horses' body heat warms air in a closed barn, unfortunately humidity, which is also trapped, makes the barn damp, dank, and feeling colder."

Elford acknowledges the difficulty in keeping barns open in inclement weather: "While we need to keep water pipes and waterers from freezing, a complete exchange of air is necessary for sufficient removal of air pollutants. Heating waterers and burying pipes protects from freezing."

Barn air quality benefits from ventilation year-round, via small slots or openings along the building's perimeter that allow fresh air to enter and stale air to leave. Opening doors and windows further amplifies air circulation for improved respiratory health.

Horse traffic and footing maintenance in indoor arenas introduce dust to adjacent stalls. During winter Wheeler suggests oiling footing with high-grade, Vaseline-based petroleum (not motor oil) to weigh down and glue particles together so they don't loft. "Watering the footing," she says, "increases the likelihood of it freezing into hard lumps, which is dangerous for riding. This also increases humidity in the building, which impacts structural soundness by rusting metal and rotting wood."

Another means of reducing harmful particulate dust levels is to store hay and bedding in a separate structure. This decreases environmental dust from horse and people activity, especially during feeding time. It also eliminates the fire hazard created by combustible hay.

Wheeler adds, "Turn horses outside when cleaning stalls to decrease exposure to aerosolized particles of molds, dust and endotoxin."

Respiratory challenges also come in the way of pathogens; immunizations against respiratory viruses (e.g., influenza, rhinopneumonitis, and strangles) help prevent infectious upper airway diseases in horse herds. Veterinarians recommend boosting these vaccines in both autumn and spring. Work with your veterinarian to ensure your horse's immunizations are up-to-date prior to winter; this, along with clean, well-ventilated barns, can help prevent respiratory illness.

### **Outdoor Shelter**

Full-time turnout (paddock and/or pasture) is the most healthful way for a horse to live, even in cold climates. "The best housing for horses in winter is no housing at all, or at most a wind break," says Elford. Wheeler also likes using run-in sheds: "The design should provide a dry location and reduced wind speeds. Surrounding 'sacrifice' paddocks with an engineered surface that sheds precipitation and is easily cleaned of manure provides a safe environment where being at liberty is the goal rather than grazing."

Heading into winter, check that your sheds are in good repair, with roofing in place, nails safely embedded in wood, and no protruding sharp edges. Ideally your run-in should offer protection from the elements from at least one direction, with the solid side facing the prevailing winter wind; a three-sided structure open to the south allows drying, says Wheeler. "A shed design works best if at least eight feet high and with exits no less than 10 feet wide to allow two horses to pass," she says. "Consider also the location of structural support posts--horses find it difficult to transition from bright to low light levels and could clobber themselves on the posts."

### **To Blanket or Not to Blanket**

Unless your horse needs his coat clipped for activities such as showing or foxhunting, most veterinarians recommend letting his coat grow out naturally during winter. For horses with a full body of hair, says Elford, blanketing is not usually necessary. "Horses have an innate ability to withstand cold and wind with no more than a windbreak," he says. Furthermore, blankets tend to

compress a woolly coat's layers, which compromises their insulating properties, notes Wheeler.

That said, "show and performance horses may need (clipping and) blanketing to control winter hair growth so they can exercise without getting too sweaty and so sweat dries easily," Elford says. If you'll be blanketing such a horse this winter, ensure that your blankets are clean and in one piece before the weather turns. Consider a partial rather than a full clip for the benefits of easily cleaned sweaty areas and heavy hair coat in other areas.

### **Turnout**

While turning a horse out is ideal for his general health, doing so in questionable winter footing is not always a safe bet. "It's dangerous to turn horses out when the ground is frozen in ruts created by hoof prints or vehicular traffic--I have seen coffin bone fractures as a result of a horse stepping into a frozen rut," says Elford. "Also, following a thaw, 'lakes' of (pooled) water then freeze overnight with pastures turning into 'glare ice.' This increases the risk of fractured legs and split pelvises." Plan ahead to have a safe, dry area to keep horses in times like these when traction is at a minimum. Alternatively, keep some form of gravel or even kitty litter available to put onto unavoidable icy areas.

### **Exercise and Feet**

To keep your horse in moderate fitness and ready for more intense conditioning come spring, keep him in light exercise during winter. Besides benefiting musculoskeletal and mental health, Elford remarks, "Exercise is also important to maintain intestinal motility." Turnout and/or consistent light riding both provide exercise.

In preparing your horse's feet for winter, Elford recommends removing shoes if the horse isn't worked heavily. However, "if you intend to ride consistently, particularly on trails, and feel the need for shoes," he says, "then shoeing with

snow pads helps clear snow from the bottom of shod hooves--this minimizes stumbling over ice balls."

He describes methods to increase horseshoe traction on packed snow and ice: "Drilled-in studs about 1/4 to 1/8 of an inch long or borium-tipped horseshoe nails provide grip without causing excessive, unyielding hoof grab."

In cold weather take time for warming up and cooling down. "Walking is an effective warm-up," says Elford. "The cool-down is hardest because once a sweaty horse stops work, he can quickly chill. Evaporation of sweat pulls heat from a horse's internal core—this compounds the chill of winter air. A horse damp from a workout can be blanketed immediately upon pulling tack. In addition, continue walking him a short while to maintain muscle (blood) circulation; this helps avoid muscle cramping while skin and muscles cool down gradually. Once he's dry, the blanket can be removed unless the horse has been clipped."

And while you might feel like frigid air assaults your airways during the first few minutes of a winter run, Elford notes he has never encountered a horse with a respiratory or breathing problem caused by exercising in cold weather. A horse's long nasal passages warm the air as it is inhaled. Toweling off frosty muzzles and other wet areas after a ride, however, helps reduce the slight risk of frostbite before turning the horse out again.

### **Digestive Health**

Water intake is especially important in winter to maintain hydration and avoid impaction colic. "Drinking is encouraged by providing warm water through heated buckets or stock tanks with heaters," says Elford. "Water heating systems should be grounded since horses can sense low voltages and may refuse to drink. Use PVC pipe coverings over electrical wires to prevent a horse from electrocuting himself."

Prior to winter make sure you're well-stocked with good quality hay, particularly in the event of supply shortages due to drought. "In winter a horse's diet doesn't need to change," advises Elford. "We've been told that additional calories help to keep a horse warm but it's best to increase calories in winter by offering more hay, not grain, as fermentation of forage in the hindgut generates internal warmth. Forage also doesn't create a carbohydrate load in the hindgut that could cause laminitis (inflammation of the sensitive laminae that connect the hoof to the coffin bone)."

Elford recommends feeling a horse's back, withers, and ribs routinely to track body condition and adjusting rations accordingly. Make sure your horse has a healthy fat covering over his ribs (body condition 5 or 6 out of 9) rather than entering winter months in too lean a condition.

In addition, good dental care maximizes the nutrition horses get from their feed. "Teeth should be checked at least yearly, particularly for the middle-aged and older horse; most horses need dental work and floating once or twice a year," notes Elford. Completing routine work on any questionable dental issues by late autumn gives your horse the best chance of maximizing his groceries during winter months.

Attention to digestive health also includes parasite control. Veterinary recommendations in northern climes include decreasing deworming frequency during winter months; however, consult your veterinarian about using fecal egg count tests to tailor this program to your farm.

### **Take-Home Message**

In general, horses thrive best when there is room to move around in and fresh air to breathe--regardless of the season. Movement helps keep musculoskeletal tissues limber and healthy, and it keeps the digestive tract motile and the equine respiratory tract healthy. Taking a few simple precautions in addition to these basic, healthful approaches can help your horse weather winter safely.