



## Heating Barns in Winter: Use Caution to Avoid Respiratory Problems

by: Oklahoma State University

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Horse owners who heat their barns to keep water from freezing and to protect horses from cold temperatures during late fall and winter should remember supplemental heat can cause problems if used incorrectly.

Ventilation is important when horses are kept inside a barn, said Dave Freeman, PhD, PAS, Dipl. ACAN, Oklahoma Cooperative Extension Service equine specialist.

"Closing up a barn to maintain heat may increase respiratory diseases because of high ammonia content and bacterial growth in stalls," Freeman said.

Heating a barn can increase the building's humidity. High humidity combined with warm temperature can cause enough nitrogen smell or bacterial growth to irritate the horse's respiratory system. These frequently result in chronic, minor respiratory problems that can interfere with animal performance.

Freeman said controlled research to define acceptable humidity and temperature levels to lessen the chance of respiratory illnesses is difficult because of the variability between barns, the horse's daily routines in and out of the barn, and lack of controlling research conditions. However, many veterinarians attest to an increase in respiratory problems in heated barns with high humidity.

"The solution is to turn down the heat and get rid of the humidity by increasing air flow," Freeman said.

Some farm operators have reported beneficial results by installing exhaust fans that move air when the humidity rises. There are methods to make these systems automatic by installing reostats that respond to humidity levels.

While the ideal temperature for horses is around 45-65° F, this "ideal range" might be neither cost effective nor a way to promote equine health.

"Increasing the heat of a barn above 55° Fahrenheit not only can be expensive, it also may have negative effects when moving horses out of the barn into colder temperatures," Freeman said.

Equine managers also need to remember that horses under artificial lighting programs for reproductive or show reasons will shed hair. Therefore, special considerations must be given to protect these animals from cold, windy, and wet weather.

Even though hair growth is largely a photoperiodic response, warm environments assist in keeping hair short. Adequate hair cover is extremely important during cold conditions, providing the horse with needed insulation to combat the cold stress of near freezing or freezing temperatures. Frequent movement into and out of heated barns from cold outside environments might in itself be a significant source of stress that can be avoided.

Freeman said one alternative is to maintain barn temperatures at around 45-55° F and use blankets to keep horses with short hair coats protected from cold temperatures in and outside of the barn.

"Part of the problem with maintaining proper barn temperature is that people working in the barn often like it a bit warmer than is recommended for the horses," he said. "Horse managers should maintain barn temperatures at a level that will help promote healthy horses and not at a level dictated by a worker's personal comfort."

This might require periodic checks by the barn manager to ensure temperatures are set at the proper level.

"It's often just a case of human nature. If you're cold, you don't think twice about turning up the heat a bit," Freeman said. "But that oversight can cause health-related problems for horses, which in turn can mean money lost to the horse owner."

**Readers are cautioned to seek the advice of a qualified veterinarian before proceeding with any diagnosis, treatment, or therapy.**

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