



Clean, Fresh Air Keeps Horses Healthy

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Horses have thrived in a natural environment for thousands of years. A large pasture with a simple shelter is often enough to keep a horse healthy. But today horses are often housed inside, where a proper ventilation system in the stable or barn is essential to a horse's health and well-being.

A well-designed ventilation system will provide fresh air while maintaining an appropriate and uniform temperature. Reducing humidity is also very important, especially during cold or moderate weather. Stale, moist air accumulates in a stable when the doors and windows are closed. Disease can be spread by pathogens attached to moist air, so horses kept in well-ventilated stables will have much healthier respiratory systems.

For effective ventilation, fresh outside air must be mixed with the indoor air so that it picks up heat, moisture and air contaminants. Properly exhausting this air from the building will lower temperature, humidity and contamination levels.

The two main ventilation systems used for horse facilities are classified as natural or mechanical.

Natural systems depend primarily on wind movement and thermal buoyancy (i.e., hot air rises). Inlets along each sidewall of the stable should bring fresh outdoor air into the stable and distribute it at the nose level of the horse. Outlets along the length of the roof ridge exhaust the air from the building.

A steep interior roof pitch aids in ventilation by directing the rising hot air to move along the roofline and exit at the ridge. Inlets and outlets must have an unobstructed airflow path. Limiting interior space obstructions is key to making a natural ventilation system operate properly.

It is also recommended to orient a building to take advantage of the wind's potential by positioning the eave-ridge vents perpendicular to prevailing summer breezes, and making sure nearby buildings or land features don't block those breezes.

Mechanical ventilation systems use fans to create an air-driving force. This can be done one of two ways--with a "negative" or a "positive" pressure ventilation system. Negative pressure systems use inlets similar to those in a natural ventilation system to bring fresh air into the stable. Fans are used to exhaust the air. For effective ventilation, buildings must be kept tight and planned inlets should be the only inlets. Open doors or window ruin this effect. For this reason, older facilities often use positive pressure.

In a positive pressure system, a fan is used to blow fresh outside air into a duct system, which adequately distributes fresh air throughout the building. Cracks and other openings allow air to exit the building.

Although mechanical ventilation systems are more expensive and complex to operate than a natural system many horse owners feel the ability to effectively control air distribution is worth the cost.

For a comprehensive discussion on how to design and operate the ventilation system that best fits your needs, read the newly revised "Horse Facilities Handbook", written and published by the MidWest Plan Service. The book is available for purchase at www.mwpshq.org, or by calling (800) 562-3618.