

Have a Healthy Barn

Create the environment your horse needs to thrive.

By Louann Chaudier

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By domesticating horses, we moved them from their natural, limitless environment to the confines of small corrals and buildings designed mostly for our own convenience.

Unfortunately, barns are not always conducive to healthy living. They can harbor airborne contaminants and bacteria that threaten to compromise a horse's well-being. Our propensity to shut doors, close windows, and lock everything up makes the situation even worse. If horses must be kept indoors, barns should be as open and airy as possible.

With careful attention to design details and by following strategic horsekeeping practices, you can make your barn a healthier place for horses.

Ventilation

No other barn design feature is as important as proper ventilation. There should be a continuous flow of fresh air, and for this reason, barn manufacturers strive to improve ventilation with features such as ceiling fans, roof vents, sliding or louvered windows, and open stall designs.

Adequate barn ventilation relies on an air exchange process where outside air enters the building, commingles with the inside air, and exits by means of an exhaust system, which can be as simple as opening adjacent aisle doors. An influx of fresh air is extremely important because stale barn air collects moisture, heat, exhaust fumes, dust, mold spores, pollen, hay particles, ammonia fumes, viral pathogens and airborne bacteria. The concentration of these contaminants is what defines air quality, so your goal is to keep fresh air circulating from the inside of the barn to the outside, even when it's cold.

Barns should have as many inlets as possible for cool air to enter and corresponding outlets where warmer air can escape. In a warm climate, inlets can be open windows; where it's cold, screened vents with adjustable openings that prevent drafts are a good option.

Inlets can be anywhere—from stall to stall and stall to aisle. Stalls with doors of wire mesh or perforated metal; steel or aluminum bars; "gossip" grills; and drop-down panels promote better ventilation.

Be aware of the signs that indicate you have too much moisture in your barn. Because warm, humid air is an ideal breeding ground for airborne pathogens, it is important to keep your aisle doors open in this weather. If you can write "clean me" on your windows with your finger, it's begun to drip from the ceiling, your floor is sweaty, or your tack is moldy, it's time to increase ventilation. Obviously, there will be days when little can be done to reduce heat and humidity, but make sure it is not your permanent barn climate.

How Cold is Too Cold in the Barn?

Horses are more likely to have health problems in a barn that is too warm than in one that is too cold. People have a tendency to assume that if they feel cold, their horses do, too. This is anthropomorphizing at its worst because our solution—closing up and heating the environment—can actually promote equine illness.

Continually toggling between cold and warm temperatures is also not healthy for horses. In the winter, your horse won't grow an adequate coat to be comfortable in cold outdoor weather if he spends 12 hours a day inside a warm barn. Horses are most comfortable when the barn humidity level is low and the temperature hovers around 40 degrees Fahrenheit.

Cupolas and Skylights

Installing skylights in your barn sounds less extravagant when you factor in that ultraviolet (UV) light from the sun destroys a wide range of airborne viruses, bacteria, and even parasite eggs and larvae. For optimum benefits from skylights, use plexiglass or specially designed UV-light translucent glass rather than normal glass because both allow more UV rays to penetrate.

Most people think of cupolas as quaint and decorative, but they are actually quite beneficial to the barn's air quality, keeping out moisture and mold rot which weakens wooden structures. Most have simple vents to release warm barn air to the outside, while others also add light.

Vapor barriers are building materials that do not allow moisture to penetrate (or significantly retard it) and include materials such as polyethylene plastic and/or foil sheeting. These are important for controlling barn climate and preventing condensation and the ensuing structural damage it causes from wet, rotting wood.

As heat and water vapor from the inside of the building move outward on a cold day, they encounter progressively lower temperatures. Vapor forms condensation at the point in the wall where the temperature of the air equals the outside dew point.

Without ceiling and wall vapor barriers, the inside of an uninsulated barn during certain weather conditions will seem like the rain forest and actually make it healthier to send your horses outdoors.

Stall and Aisle Flooring

Dirt aisles should be avoided because gusts of outdoor air distribute dust, dander and debris that can lead to respiratory problems, in addition to undoing much of your grooming effort. Dirt floors are also uneven and messy when wet; however, covering them with rubber mats or pavers eliminates some of these problems.

Dirt as stall flooring should be avoided as well. Even if your horse doesn't paw the floor, he'll end up with a sunken area in the center where he urinates. This also makes it difficult to keep the stall clean. Rubber mats can help minimize these problems, or you can install one of the newer types of porous stall mats that allow drainage.

If your horse spends any time in a stall, the floor should be easy to clean and have a comfortable surface with traction. StallSkins are made of a lightweight, water-permeable polyethylene geotextile that allows urine to drain through to an underlying gravel base. The bedding you spread on top stays drier, and you will use less of it.

Innovative Equine Systems sells another flooring system that promotes drainage, called EquiTerr. Honeycomb-shaped interlocking pavers rest on a prepared drainage bed and are filled with crushed stone to make a level surface. Bedding is then placed directly on top of the pavers.

Another product is the ComfortStall system, a cushiony equine equivalent to a memory foam mattress. The mat is secured to the stall walls to keep it in place and therefore doesn't need to be removed for cleaning.

Concrete stall floors should be covered with rubber mats to prevent slipping, ease leg strain and eliminate elbow sores. Concrete aisles can be very slippery if not properly texturized. In addition, non-slip rubber matting can help footing, especially in wash areas.

Fumes in the Barn

Some of the equipment we use to make our chores easier is not beneficial to indoor air quality. Barns are usually built so the aisles are wide enough to admit tractors and manure spreaders. However, fumes from exhaust contaminate the air for any horses left inside.

Similarly, many horse owners have discovered leaf blowers as quick, easy alternatives to the push broom. Blowers are fine tools for outdoor use, but less so inside the barn where they contaminate air quality.

Hay & Bedding Storage

The barn is not the best place to store your hay and bedding. They are responsible for most of the dust and mold spores that infiltrate your barn, and present the greatest fire hazard.

However, if you have no other storage options, you can lessen the danger by building a special area for hay and bedding using fire-retardant treated wood (FRTW is stamped on the lumber). FRTW is a mixture of lumber and plywood treated with a fire-retardant solution that delays the spread of flames and reduces smoke. You can also paint over existing wood with fire-retardant paint or varnish to make it less flammable.

Remove moldy, dusty, contaminated hay to a burn pile or somewhere far away from the barn. Even the close proximity to mold spores can cause your horses to start coughing and contribute to recurrent airway obstruction (RAO, formerly known as chronic obstructive pulmonary disease, or COPD) in susceptible individuals.

Another possible hay storage problem is that your haystack can become a wildlife habitat if you don't take preventive

measures. Raccoons and opossums, which are carriers of rabies and equine protozoal myeloencephalitis (EPM), respectively, love to nest in stacked hay and snack on anything edible that might be left behind by you or your barn cats. Needless to say, you don't want these kinds of pests taking up permanent residence in your barn. Keep all feed in sealed containers and buy a humane trap, a must-have on any working farm.

Three-sided shed owners can take heart. The healthiest barn is probably the one that is used the least, even when the property owners have built deluxe equine facilities fit for kings.

Writing about dream barns causes Louann Chaudier to wonder if her "picturesque" 100-year-old banked dairy barn in southern Wisconsin is due for a makeover.

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