1996

G96-1291 Housing for Horses Flooring for Stalls

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G96-1291-A

Housing for Horses Flooring for Stalls

This NebGuide discusses various types of flooring for use in horse stalls.

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Stalled horses require much greater care, attention and labor. The availability of optimal ventilation with fresh clean air circulation is essential to healthy horses. Adequate ventilation reduces the presence of air contaminants such as dust, molds and irritating gases from decomposing manure.

Materials used for stall floors can greatly influence air quality, ease of stall maintenance and manure removal. Stall floors must be made of durable material which is not slippery, yet is absorbent, easy to clean, and resistant to pawing. Whatever the materials used, floors should require minimum maintenance. Some commonly used flooring materials include: clay, sand/clay mixture, limestone dust, wood, concrete, asphalt, and rubber floor mats. Top soil should be removed before starting to build the stall floors to minimize settling.

Clay or Clay/Sand Mixture Floors

Hard packed clay flooring is used widely and requires relatively high maintenance. Clay floors are somewhat warm but tend to become slippery when wet. Maintaining level floors is difficult and time consuming. When horses urinate and move about the stall, holes and pockets develop. Stall cleaning becomes difficult and odor problems often result. Clay should be placed over a well-drained subfloor of crushed rock or gravel.

An alternative flooring is a mixture of clay and sand. Combining 2/3 clay and 1/3 sand is a relatively economical, easily obtained stall flooring. This combination allows for good drainage and minimal odor problems. Pockets and holes still occur, however are easier to repair as they develop. Sand and clay must be well mixed, leveled, and packed before horses are placed in the stalls.

Sand

Straight sand can be used as an inexpensive flooring as it requires no additional bedding. Stalls using sand as the flooring/bedding combination must be cleaned regularly and the sand changed regularly. It is a poor bedding choice for many horses due to the potential for colic. Horses in sand stalls will tend to ingest some of the sand particles and increase the risk of colic. Sand is preferred as an underlayer for other flooring materials as it provides excellent drainage.

Limestone Dust

Stall floors constructed of limestone dust can be excellent, if properly installed. Limestone should be placed over a good base that allows adequate drainage. A key in construction is to have the flooring watered and packed before use. Obtaining a level, hard surface is essential to durability and ease of maintenance of limestone floors. When properly installed, this flooring can be nearly as hard as concrete floors. Therefore adequate bedding is essential to provide sufficient cushioning for horses. Limestone needs to be 4-5" thick and placed over a base of 6-8" of sand or a material which allows for good drainage.

Wooden Floors

Many horse owners prefer the low maintenance of wooden floors. The most appropriate materials are rough cut hardwood such as bridge planks or railroad ties. Wood should be a minimum of 2" thick and be treated to retard decay. Problems associated with wooden floors include being slippery when wet, and attraction of rodents by creating an environment for urine to accumulate and feed to fall through cracks. Correct construction of wooden floors and proper bedding amounts can minimize these problems. Wooden planks should be placed over a base of 6 to 8" of sand or gravel to aid in drainage. Planks should be cut to stall size, and spacers placed between the large planks to aid in drainage. The cracks should be packed with gravel or clay. The high initial cost of wooden floors may be somewhat prohibitive, but minimal maintenance is required.

Concrete/Asphalt

The benefits of concrete or asphalt stall flooring include easy cleaning and sanitation plus virtually no maintenance. However, drainage is nearly nonexistent and more bedding is necessary to avoid odor and traction problems. Unsealed asphalt floors will allow some drainage and thus require approximately 20 percent less bedding than if sealed or concrete. Additionally, concrete or sealed asphalt floors are often cold and slippery. Unless adequate bedding is provided, increased leg problems are also associated with horses maintained for long periods of time in these hard stalls. If concrete or asphalt stalls are used, horses should be turned out at least four hours per day. Many horse owners provide increased cushioning by supplementing their concrete or asphalt floors with rubber floor mats or wooden planks.

Rubber Floor Mats

Rubber stall mats are expensive, but can provide an easy-to-clean, soft stall for horses. When installing rubber mats the floor should be level and well packed. Ideally, mats should be one piece or a minimal number of pieces and at least 5/8" thick. Mats should fit tightly to each other and to the stall walls. The mats must be durable enough to withstand pawing. Bedding should be used in conjunction with mats to absorb urine. Mats can be placed over nearly any type of flooring, provided it is level.

Alternative Floorings for Stalls

There are numerous alternative horse stall floor materials available. Many of these will be relatively high cost, yet low maintenance. The additional cost needs to be weighed against the benefit of the flooring material.

Interlocking rubber paving bricks are an excellent flooring. These bricks are very attractive, durable, safe and comfortable to horses. Another alternate stall flooring is fiber-reinforced polyethylene interlocking blocks. This flooring is both durable and provides good drainage. With the addition of stone dust, sand or soil on top, it is easy on a horse's legs and has good drainage.

Another product is a flexible, fiber grade of polypropylene. This is a tough-yet-flexible material designed for support, strength and chemical resistance, and allows for drainage with a non-skid surface. It has a good, shock-absorbing surface that reduces moisture and is easy to clean.

There are numerous types of excellent materials available for horse stall floors. Whatever the chosen material, it should be easily maintained and provide a dry, odor free environment for the housed horses.

File G1291 under: ANIMALS, GENERAL
C-2, Management
Issued May 1996; 2,500 printed.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Elbert C. Dickey, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.