The Role of Nutrition in Horse Colic and Laminitis

By Horse Extension

Laminitis is inflammation within the sensitive laminae of the feet. It can occur for many reasons, but as a nutritional problem it is commonly linked to grain-rich diets, ingestion of too much rich pasture, and obesity. Grain overload or a diet rich in high-carbohydrate feed (grain or lush pasture) initiates a series of metabolic and endocrine (hormone) disturbances in the body. A diet abundant in carbohydrates upsets normal intestinal bacteria, allowing more endotoxins from harmful bacteria to be absorbed into the bloodstream than can be neutralized by the liver.

The most common laminitis relates to nutrition and diet. Rapid intake of starches or fructans (a sugar) stored in pasture plants can cause laminitis. Fructans are the primary reserve carbohydrate stored in cool season grasses like orchardgrass, bromegrass, and timothy. Sugar content is highest when grass is in the vegetative state (early spring and during re-growth); during periods of cool nights and warm sunny days (fall or early spring); after a hard freeze; and during drought conditions. Careful pasture management by horse owners with sensitive horses is essential. Good pasture management entails:

- Not overgrazing
- Limiting grazing time, and/or
- Using a grazing muzzle

Grazing should also be limited during times of environmental stress on plants such as drought. It is important not to over graze pastures as the lowest stems often contain the highest amount of sugar. Avoid grazing on pastures with lots of seed heads as they also contain high amounts of sugar. Introducing horses to lush spring pasture gradually will reduce the chance of laminitis. To begin grazing (and reduce the chance of laminitis), start easing the horses onto the pasture in 15 to 30 minute increments. Gradually increase the amount of time in the pastures over the course of several weeks. Colic can be caused by digestive upsets. Some pasture forages, like legumes, can cause gas in the digestive system when quick diet changes are made. So make dietary changes slowly over time, including slow induction to pastures.
Avoiding a Tumble

Throughout this time of year, fall showers can sometimes make it hard to walk. Whether it is a slippery sidewalk, wet leaves acting as banana peels, or a night freeze turning the concrete into a sheet of glass, we try our best to avoid slipping and potentially getting injured. The same can be said for cattle when walking on various types of terrain. Just like humans, cattle can also sustain an injury when walking on unsolid ground. To avoid future injuries in cattle, experts at the Kansas State University Beef Cattle Institute provided some advice to help decrease the chances of injury.

“Without the right type of flooring, cattle can slip and fall when going through a handling facility and risk injury,” veterinarian Brian Lubbers said.

Lubbers recommends producers offer grooved concrete or mats for the cattle to walk on. “The advantage of concrete is that it can be easily cleaned to aid in disease prevention,” Lubbers said. But he stressed that if the concrete is not poured correctly, it can be a risk to cattle walking across it. “It is important that the concrete has grooves in it, but if they are too deep or too shallow, the cattle could have issues,” Lubbers said. He advised consulting with an agricultural engineer when planning the concrete design.

Along with ease of cleaning, veterinarian Bob Larson said it is also important that the flowing floor can work well, “The dirt provides the traction and because of the time delay in working cattle through the chute, mud and manure is not likely to build up.”

Regardless of the flooring, it is important to design a facility that the cattle can easily move through, said the experts.

“The goal is to keep cattle from getting excited and flying out of the chute because when that happens there can be a lot of hoof erosion,” Lubbers said.

One way to reduce the erosion is to use recycled tire mats, added Lubbers. “The mats provide traction and are easy to clean,” he said.

For more information regarding proper flooring to prevent injury in cattle operations, please contact Shannon at the extension office.

Best,
Shannon
(Agriculture/4-H Agent)
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November Ag Fact

Kansas farmers grow about 330 million bushels of wheat each year. That’s enough to make 23 billion loaves of bread!

When Are Apples Ready To Pick?

Apples mature over a long period of time depending on variety. Some varieties such as Lodi can mature in July and others as late as October or even November. Here are some guides to help you decide when to pick your apples.

Days from bloom: The number of days from bloom is a reliable guide for general maturity time, but weather conditions will have some influence. Some kinds of apples and approximate days from bloom to maturity are: Jonathan, 135; Delicious, 145; Golden Delicious, 145, and Winesap, 155 days.

Flesh Color: As apples mature and starches change to sugars, the flesh changes from very light green to white. When you cut a thin slice and hold it up to the light you can see the difference.

Seed Color: The seeds of most apples change from light green to brown as the fruit ripens. This indicator should be combined with other changes since it is not absolute. The flavor of the apples, the change in color of the stem and calyx basins and flesh color are important in deciding if apples are ready to harvest.

Color Change: As apples mature, the skin color in areas of the stem and the calyx basin at the bottom of the apple turns from an immature green to a light-yellow color. Some apples will develop a red skin color over the majority of the fruit before they are ripe, so this is not a reliable indication of maturity.

Flavor: This is a good guide of you are familiar with the apples you have and know how they should taste. Even if you do not know the characteristic flavor of the kind of apple you have, you can still sample slices of a few apples and decide if they have a sweet flavor. If they are not ready to harvest, they will taste starchy or immature. If apples have already fallen and tasted a bit starchy, store them for a period to see if they become sweeter. (Ward Upham)

Rotation of Vegetable Crops

Rotating vegetable crops is a standard way of helping prevent disease from being carried over from one year to the next. Rotation means that crops, or a related crop, in the same area each year can lead to a build-up of disease. Also, different crops vary in the depth and density of the root system as well as extract different levels of nutrients. As a rule, cool-season crops such as cabbage, peas, lettuce and onions have relatively sparse, shallow root systems and warm-season crops such as tomatoes, peppers and melons have deeper, better developed root systems. Therefore, it can be helpful to rotate warm-season and cool-season crops.

As mentioned earlier, it is also a good idea to avoid planting closely related crops in the same area as diseased may be shared among them. For example, tomatoes, potatoes, peppers and eggplant are closely related. Also, broccoli, cauliflower, cabbage and Brussels sprouts share many characteristics in common. For example, do not plant cabbage where broccoli was the previous year or tomatoes where the peppers were.

So, why is this important to bring up this fall? Now is the time to make a sketch of your garden so that the layout is not forgotten when it is time to plant next year. (Ward Upham)