



Livestock Q and A

Grass Founder Risk

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Grass Founder Risk

Q: Our horse gets very fat on pasture in the summer. He has a lot of fat at the top of his neck and we've heard this is a sign he might be at risk for grass founder. What is grass founder and how can we prevent it?

A: Horses that are "easy keepers" (those who tend to gain weight easily) and ponies are at risk for founder when kept on pasture. Founder is an inflammation of the sensitive laminae of the hoof, usually brought on by overeating grain or lush grass. In its most severe form, it can cause the coffin bone to rotate and drop through the sole of the hoof. Horses are most susceptible in early summer or whenever grass plants are growing rapidly, such as after periods of moisture which stimulate lush regrowth. Grasses store energy in seeds (as starch), but also in roots, leaves and stems as fructan--a type of sugar. It is fructan that can be harmful to horses if ingested in large quantities. In the spring fast-growing plants store large amounts of fructan in their lower stems and may create more than they can use up at night. In summer the plant has less fructan reserves because sugar produced during the day is used up each night. Thus, horses are less apt to develop grass founder during summer than in spring, or fall if pastures regrow. Eating excessive amounts of fructan can lead to founder just like eating too much grain. When a horse eats too much, some simple sugars and starch pass through the small intestine undigested and are fermented by bacteria in the cecum and upper portion of the large intestine. This creates lactic acid and bacterial toxins which trigger laminitis. Some horses are very susceptible to grass founder, due to gluttony. The fat, idle animal is also more at risk than the fit, athletic horse. Horses that eat a lot of green grass when unaccustomed to it may also be more apt to founder than a horse already adjusted to a pasture diet. The danger decreases as grass matures and growth rate slows or plants become more dry (more fibrous and less lush). Plants in spring are high in water content, protein and sugars, and low in fiber. All grazing herbivores tend to overeat the lush forage because it is very palatable and also has a low fiber content; the animal doesn't feel full, so he keeps eating. If an overload of fructan ends up in the cecum and upper large intestine, the horse may founder. Horses or ponies that are easy keepers, overweight, or heavy necked seem especially vulnerable to grass founder, so their time at pasture should be limited. To be safe, no horse should be turned out on lush spring grass without gradual introduction to it. A break-in period of 7 to 10 days (gradually increasing turnout time) may prevent problems. Once an animal experiences grass founder, he is more likely to founder again. To avoid founder, keep susceptible horses off early spring pasture or any lush regrowth until grass growth has slowed and seed heads begin to form, or limit grazing time with adequate hay in the horse's stall or corral area. Pastures that were grazed short during winter and grow fast in the spring are often risky. Keep the horse off pasture until grass starts to mature, then introduce him to it slowly. Put him out for just 15 minutes the first day, 30 minutes the second, an hour the next, an hour and a half the next, then for about two hours per day for the rest of the week. Some individuals must be limited to only two hours of total grazing per day (an hour in the morning and an hour in the evening is best). With many horses that have previously founded or might be at risk for grass founder, it's safest to leave them in a pen and feed hay. However, not all grass species experience rapid growth in the spring. It is important to identify the grass and/or legume species in your pastures before jumping to conclusions that you have a dangerous pasture. Your local county extension agent will be your greatest resource for pasture information. Horse owners with lush-growth pastures might also plan to re-seed with more suitable and safer forages.

Scours in Calves

Q: One of our calves got sick with diarrhea this spring and although we gave him the prescribed antibiotics, he died. In hindsight, I don't think we gave him enough fluids and electrolytes. What could we have done differently?

A: When a calf gets diarrhea, he is not only losing vital body fluid, but also body salts that are important to normal cell function. Electrolytes are the basic elements dissolved in body fluids--the major ones are sodium chloride (salt) and potassium (calcium, magnesium and phosphorus). Calves with diarrhea often die from dehydration and depletion of these important elements. Whether diarrhea is caused by bacteria or a virus, the important thing is to keep the calf warm, dry and well-hydrated so he can fight the infection. The earlier you can start giving him fluids with electrolytes, the better. In the



early stages of diarrhea, while the calf is still fairly strong, he can absorb oral fluids given by stomach tube or an esophageal feeder (ask your vet or an experienced person to show you how to use these). Once he gets weak and dehydrated, and the gut lining is too damaged to absorb fluid, the only way he can be saved is with intravenous or subcutaneous fluids (although IV is preferred at the point where the animal is too weak to stand) given by your vet or an experienced vet tech. For a scouring calf, give 1.5 to 2 quarts of warm water with electrolytes every 6 to 8 hours (dosage depends on calf's weight and/or size. Consult your vet for proper dosage). In a very young calf with severe diarrhea, you may need to give this fluid even more often to keep him from becoming dehydrated. A simple homemade recipe for electrolytes is to add 1/2 teaspoon table salt and 1/4 teaspoon Lite salt (potassium chloride) to the warm water. If he is still nursing his mother, the milk will give him the energy he needs. If he is too sick or weak to nurse, you'll need to add some nutrients to his feedings. Milk or milk replacer can be added to the fluid or given in between the fluid and electrolyte feedings. Stomach tubing is another means of administering dam's milk or a liquid nutrient mix to the calf. However, it is important to ensure that the tube enters the stomach and not the lungs. If you're unsure about the procedure, seek assistance from a vet. Another aid to scours is to add 2 to 3 ounces of Pepto Bismol or Kaopectate to the calf's fluid mixture (or administer separately), which will help soothe and slow the gut. This can be added to each fluid feeding until the feces start to firm up again. If you detect sickness early, before the calf gets weak and dehydrated, and diligently give fluids at regular intervals during the day and night, you can restore fluid and electrolyte balances and help him fight off the infection and dehydration. Give an antibiotic if your vet recommends one for bacterial scours, in appropriate dosages. An oral antibiotic is always more effective for diarrhea than an injection and a liquid is always better than pills. Pills or boluses do not dissolve well in a gut that is not working properly. If the antibiotic prescribed is in pill form, crush or dissolve the pills and add them to one of your fluid mixtures. The antibiotic may only need to be given once a day, but the fluid should be given repeatedly throughout the day. Always read the label of any product you are administering to an animal to ensure proper dosage and other necessary precautions are accounted for. Also remember to check expiration dates, as expired drugs are useless.

Dwarfism and Miniature Horses

Q: I like both the size and elegance of Miniature horses, but what uses do they have? Are they dwarf animals or miniatures and what exactly is the difference? We have 12 acres of pasture and a beautiful lake on our property, and we have retired to start our own farm. We'd appreciate your help as we get started.

A. Miniature horses are an established breed with good support organizations and a stable history in the United States. The American Miniature Horse Association (AMHA) began in Texas in 1978 and now has over 12,000 members with horse shows all over the country. Helpful Sites: The American Miniature Horse Association 5601 S. Interstate 35W Alvarado, TX 76009 (817) 783-5600 www.amha.org The American Miniature Horse Registry 81-B East Queenwood Morton, IL 61550 (309) 263-4044 www.shetlandminiature.com Guide Horse Foundation P.O. Box 511, Kittrell IN 47544 (252) 433-4755 www.guidehorse.org USA Miniature Horse www.mini-horse.org/index.html The size of Minis makes them ideal as pets because they do not intimidate children and are easier to control than standard-sized horses. They are intelligent and can be easily trained to pull a cart which can be fun and foster good community relations if you enter them in local parades. Minis are therapeutic when taken to visit patients in nursing homes and can even be trained as guide animals for the blind. The vast breeder network should enable you to find reputable owners with animals for sale near you. Most equine veterinarians can advise you about husbandry and medication routines which will keep your Miniature horses healthy and happy. Additionally, Mini horses need special fencing to protect them from predation. Miniature horses are not considered dwarves. Dwarfism is a genetic aberration while miniaturization is a proportional downsizing of a larger breed. The AMHA registers Miniature horses which are 34 inches or less at the withers as measured from the last hairs of their mane. Their Standard of Perfection states that "The general impression should be a small, sound, well-balanced horse, possessing the correct conformation characteristics required of most breeds... The general impression should be one of symmetry, strength, agility and alertness. Since the breed objective is the smallest possible perfect horse, preference in judging shall be given to the smaller horse, other characteristics being approximately equal." However, it's important to note that "any breed of animals that attempts to reduce size has to accept dwarfism as an unwanted by-product," says Barbara Ashby in an article in *Miniature Horse World* (June/July 1989). There are several types of dwarfism that only become evident when the horse matures. Thus, some animals that were used as breeding stock because of their diminutive size have proved to carry these abnormal genes. There are hundreds of types of dwarfism with specific physical markers. One of the most prevalent types exhibits itself in animals born with tiny ears and very short, disproportionate legs on a body that is otherwise proportional (achondroplasia). However, their intelligence is usually normal. Other dwarf horses are born with very serious deformities (diastrophia) which require extensive veterinary care and life-long corrective measures such as special boots to alleviate pain and improve quality of life. Another common form of gene disruption is brachiocephalia, which can manifest as a misshaped head with misaligned jaw and teeth, a bulging forehead and dished face. All varieties of dwarfism vary in severity. The various syndromes can also have hidden dangers associated with them



such as mental retardation, reduced life span, internal organ defects and pain that results in inactivity. As you can see, this is a serious and complex issue. Selective breeding and careful pedigree analysis can help curtail the problem of dwarfism. As you begin visiting Miniature horse farms, ask breeders about this matter and be diligent in your research before purchasing your first Mini.