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Gastric Ulcers: Management Key to Prevention

During the past 15 years, the prevailing view on horsemanship has promoted working with horses and decreasing handling stress. Tips on imprinting foals and improving communication between horses and humans have been abundant in publications that target equine enthusiasts.

Interestingly enough, the prevalence of gastric ulcers has been reported from 25-50% in foals and 60-90% in adult horses, depending on age and level of performance. This brings up the question of whether the incidence of gastric ulcers is increasing, or we are now better at diagnosing this ailment.

Equally important, provided these numbers are accurate, how do proactive horse owners effectively treat and prevent gastric ulcers? The reality is that gastric ulcers are a man-made disease, and the majority of horses with gastric ulcers do not show outward symptoms. Oftentimes poor appetite, decreased performance, and a poor hair coat are subtle symptoms that can be attributed to other causes, while more severe cases manifest themselves as colic.

Definitive diagnosis involves placing an endoscope into the stomach and evaluating its surface. Gastric ulcers arise from the erosion of the lining of the stomach due to prolonged exposure to the normal acid in the stomach. Because the design of the horses' digestive system favors continuous intake, the horse's stomach is relatively small (8-12 quart capacity) and continually secretes acid. Attempting to confine horses, adapt them to an 8-5 schedule, and turn them into meal feeders might promote a stomach environment that has prolonged periods when the stomach remains empty. Acid accumulates, and not only is there is not any feed present to neutralize the acid, the buffering capabilities of saliva are also not effectively used.

Unlike the Pavlov's dog theory, where salivation is a conditioned response, horses need mechanical stimulation--that is, chewing--to stimulate salivation. Vices such as wood chewing and cribbing that are exaggerated in horses that are idle, stalled, or managed in confinement might just be a symptom of gastric discomfort. Environmental and physical stresses also increase the likelihood of ulcers.

Transportation, commingling, and training oftentimes interrupt the eating behavior of horses, and intense exercise might depress the empty-

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ing function and alter the gastric blood flow, thus contributing to the problem. Furthermore, anti-inflammatory medications such as phenylbutazone (bute) and the pain reliever banamine have been implicated in making the stomach more susceptible to ulcers.

In light of all this, treatment should be aimed at removing the predisposing factors and manage acid production. If you have a horse in a training program, one that is prone to be nervous, or one that is hauled extensively, and if it is exhibiting the previously stated symptoms, you need to take a hard look at what can be done to alleviate the physical and emotional stress while managing acid production. The simplest way is allowing free-choice access to long stem forages or multiple meals per day. This stimulates saliva production, which is nature's best antacid.

Evaluating the dietary energy needs of your horses and making appropriate changes in the form of energy (starch vs. fat) may benefit some horses as well. Horses also find strength in numbers so providing social stimulation will go a long way in limiting stressful situations.

Medical treatment is advised if other options have been exhausted, as there are products available that are designed to decrease the amount of acid the body produces. If you are administering anti-inflammatory or pain medication to horses that are subject to high levels of stress, proactive ulcer prevention might be warranted. Consult your veterinarian about treatment protocols.

The more we can complement the natural digestive characteristics of horses, the better off we will be in the long run. The natural tendency is to kill our horses with kindness and this oftentimes creates unintended stress that ultimately is avoidable, provided we take into account the digestive capabilities that horses possess.

Written by: Mark Ullerich, SDSU Extension 5/24/2007

Fall Maintenance

Fall is a great time to schedule your horse's annual dental exam and float. Winter is just around the corner , and it is important for your horse to have his teeth in as good of condition as possible. This will result in optimal chewing of hay and feed, and help assure that your horse can maintain a healthy weight in the colder months to come.

Older horses should especially have their teeth evaluated to make sure that there are no sharp points or hooks that would interfere with the normal circular chewing motion that horses have.

Management of Pregnant Mares

By: Dr. Jim Brendemuehl

Mares should be managed attentively during pregnancy to help ensure the birth of a strong, healthy foal with no injury incurred by the dam. Maintaining the mare in good health, being familiar with the signs of impending parturition, and preparing a foaling environment conducive to mare and foal health will increase the likelihood of obtaining a healthy foal.

The average length of gestation in the horse is 335 to 342 days, with normal ranges of 320 to 365 days. There are seasonal effects on the duration of gestation, with mares due to foal in late winter and early spring (January to March) carrying their foals 5 to 10 days longer than mares foaling later in the spring and summer.

Preventive health care for a pregnant mare includes regular immunization for certain infectious diseases. Immunization serves two purposes: protection of the mare and eventual protection of the newborn foal through nursing. Vaccines should be boostered 3 to 4 weeks before the projected foaling date to optimize antibody concentrations in colostrum.

Core vaccines for pregnant mares include: * equine herpes virus type 1 (EHV-1), the primary form of equine herpes virus associated with abortion and also associated with foal mortality and encephalomyelitis in adult horses. (Additional management practices to prevent this disease include separating pregnant mares from other horses and preventing contact with new or transient animals.) * encephalomyelitis, a neurologic disease also known as sleeping sickness. Eastern, western, and Venezuelan encephalomyelitis are of greatest concern among these diseases transmitted by mosquitoes. * West Nile virus, another neurologic disease transmitted by mosquitoes. * tetanus, a disease with high exposure and life-threatening consequences to the mare and foal. And, *rabies vaccine.

Regular deworming is second only to good nutrition for proper management. Most deworming medications are considered safe for use during pregnancy and products from all major classes of dewormers are approved for use during pregnancy. A valuable management practice is to administer ivermectin to the mare on the day of foaling to minimize the parasitic load of Strongyloides westeri. The infective larvae of this parasite are transmitted to the foal via the milk in the first few days after foaling.

Proper nutritional support of broodmares improves fertility and promotes normal growth and vigor of the developing fetus. Pregnant mares should be kept in good body condition. Mares should not be obese as obesity has been associated with weak, undersized foals.

Digestible energy requirements of mares during the first 8 months of gestation are the same as those for maintenance but gradually increase over the last 3 months of pregnancy, when about 65 percent of fetal growth occurs. The growing fetus increasingly takes up abdominal space during the last trimester, requiring the feeding of some grain and good quality hay.

Mares in late gestation also need increased protein. A good rule of thumb is 10 to 12 percent crude protein in the last 3 months, compared with about 8 percent for maintenance and early pregnancy.

The primary minerals to be concerned with in rations for pregnant mares are calcium and phosphorus. The National Research Council recommends calcium be fed at a rate of 0.2 percent for maintenance and the first 8 months of gestation and 0.4 percent for late gestation. Phosphorus levels should be evaluated closely and should not exceed calcium levels in late gestation.

Because legume hays are high in both calcium and protein, feeding alfalfa hay in late gestation may preclude the need for calcium and protein supplementation in the diet.

Mares should always have available fresh clean water and salt.

Preventive health care programs for pregnant mares depend on many factors, including expected disease exposure, vaccine efficacy, farm population density, and economic constraints. Therefore, consultation with your veterinarian is important to tailor a program to meet the needs of individual mares and to fit disease control measures on farms where mares reside.

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Note: CVS recommends the Pneumabort K +1b vaccine to be given at months 5, 7 and 9 of gestation and core vaccines given 4-6 weeks prior to foaling.

Houndstongue
"Natures Velcro"

Houndstongue (*Cynoglossum officinale L.*) is a biennial growing 1 to 4 feet tall and reproducing by seeds. Leaves are alternate, 1 to 12 inches long, 1 to 3 inches wide, rough and resemble a hound's tongue. Introduced from Europe, it forms a rosette the first year and sends up a flowering stalk the second year.

Houndstongue rosette.

Flowers form in mid-June and range in color from dull red to burgundy. Each flower develops seed clusters containing 3-4 nutlets (seeds) which are covered with tiny hooks *"Velcro"* which break apart and cling to animal hides or clothing. It may be found in pastures, along roadsides and in disturbed habitats. Houndstongue is toxic to livestock. It contains pyrrolizidine alkaloids, causing liver cells to stop reproducing. Animals may survive for six months or longer after consuming a lethal amount. Sheep are more resistant than cattle or horses. Horses may be especially affected when confined in a small area infested with houndstongue and lacking desirable forage. Therefore ranges and pastures should be maintained to encourage production of grasses and high quality forage.

Houndstongue seeds sticking onto a backpack with "Velcro" hooks.

Houndstongue plant with flowers and seed pods.

Mowing, cultivation and hand pulling are ineffective in controlling hounds-tongue as plants can regenerate themselves from the root crown. Severing the root at 1-2" below the soil surface, bagging and burning or burying the top growth can be done for individual plants. Larger patches can be effectively controlled with various herbicides such as 2,4-D amine, picloram (Tordon K), or metsulfron (Escort). 2,4-D easily and economically controls the rosette stage. Refer to labels for proper application.

The most effective method of weed control is preventing their spread and establishment. Practices which reduce the spread of weeds indude: limiting weed seed dispersal, containing current infestations, minimizing soil disturbances, detecting and eradicating weed introductions early, establishing competitive grasses and proper grazing.

Photo by Ken Eraas

Angus cow covered with Houndstongue seeds, an effective seed spreader.

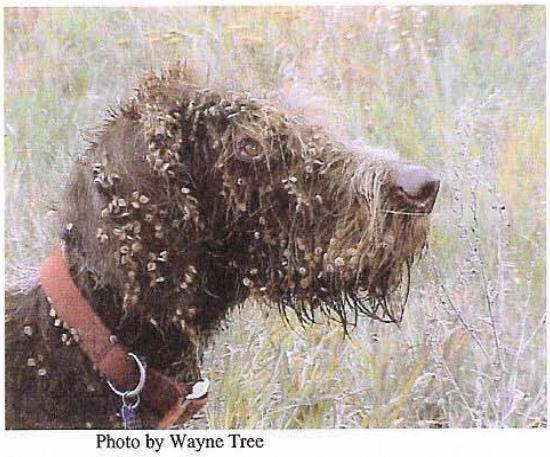

Photo by Wayne Tree

Sticking his nose where it shouldn't be.

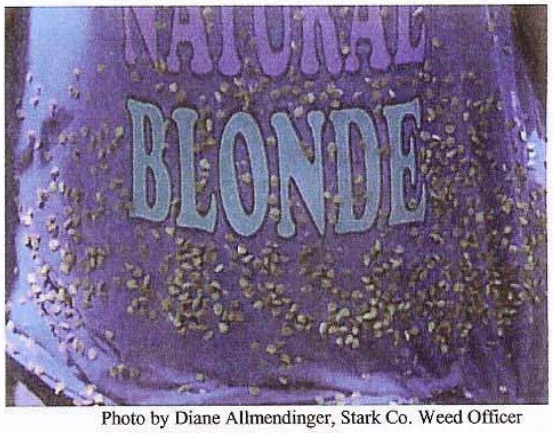

Photo by Diane Allmendinger, Stark Co. Weed Officer

Hazards of hand pulling, seeds sticking to shirt.

Call your county Extension Agent or County Weed Officer for plant identification and proper control methods.

Written by Stan Wolf, Cass Co. Weed Control

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What: Equine Fall Seminar Featuring morning demos, lunch and afternoon speakers

Where: Casselton Veterinary Clinic

Morning Demos:

**Abby Rohrbeck-Saddle-Fit*

**Dr. Bartholomay-Stretches to Help Maintain Muscle Health*

** Mick Rohman from Jorvet– Endoscopy of the Stomach*

St. Leo's Church (Spirit of Life Center) for lunch and afternoon speakers featuring:

Jim Kokett from Merial speaking on Gastric Ulcers

Progressive Nutrition's Kelly Ann Graber speaking on Nutritional Management for Optimal Health for EVERY horse

When: Saturday, October 20th, 2007 9:00-3:30 Limited seating, please RSVP to the clinic @ 701.347.5496 to register.