

EQUINE GASTRIC ULCERS

ETIOLOGY

- A high percentage of horses in training have been found to have ulcers, with horses in race training showing the highest prevalence.
- Additionally, incidence of ulceration in foals of all ages has also been documented, particularly in those around weaning age.
- The anatomy of the stomach predisposes the unprotected non-glandular squamous region of the stomach to ulceration resulting from repeated acid splash above the margo plicatus. This tissue, unlike that of the glandular portion of the stomach, does not have a mucus layer and does not secrete bicarbonate that serves as a buffer to acid produced in the stomach.
 - Ulcers have also been documented in the glandular portion of the stomach in conjunction with a failure of the protective mucosal bicarbonate layer, as well as in the duodenum of the small intestine.
- When saliva production is inadequate to buffer gastric acid and coat the squamous epithelium, gastric irritation and lesions may occur.

SYMPTOMS

- Gastric ulcers may contribute to chronic, recurrent colic, poor body condition, chronic diarrhea, sour attitude, exercise intolerance, poor performance and inappetance.

RISKS

- Horses that are housed in stalls, and/or undergo extended periods of time between meals, and/or are exposed to environmental stressors are more predisposed to gastric ulceration than horses kept at pasture and allowed to graze or eat forage throughout the day.
- Repeated use of nonsteroidal anti-inflammatory drugs and/or hypertonic electrolyte preparations may also contribute to the incidence of ulceration.

MANAGEMENT RECOMMENDATIONS

- Horses diagnosed with gastric and/or colonic ulcers should be under the care of a veterinarian, and treated to heal the ulcers through dietary, management and pharmaceutical interventions. Omeprazole is the only approved pharmaceutical for use in preventing and healing gastric ulcers in horses.
 - Continuous mastication encourages production of saliva that contains natural buffers, helping to protect the tissues in the stomach from further damage.
- It is helpful if horses suffering from ulcers can be turned out, preferably 24 hours daily and allowed to graze or consume forage throughout the day.
- Avoiding sudden changes in routine or diet can also help reduce the incidence of gastric ulceration in horses.

DIETARY RECOMMENDATIONS

- If access to pasture is not possible or contraindicated, it is imperative that horses with ulcers have access to excellent quality legume, grass or mixed hay.
 - The high calcium content of legume hay is useful as a dietary buffer and tends to be very palatable, therefore encouraging continuous intake.
- Once the ulcers are healed, it may be helpful to feed a daily buffer/antacid.
- Increasing the feeding frequency (four to six small meals per day) is also helpful in keeping saliva production constant and preventing a decrease in gastric pH, therefore protecting the mucosal lining.
- Horses with or predisposed to ulcers should not consume large grain meals with high starch and sugar content, as they tend to promote increased acid and volatile fatty acid production.
- Grain concentrates formulated with controlled starch and sugar technology as well as highly digestible sources of fibre should be used and fed in small meals evenly spaced throughout the day.
- Always provide access to good quality forage and free choice access to salt and clean water.

SUGGESTED PURINA PRODUCTS

FEED NOTES

- Important: The first step in care is to heal the ulcers.
- Increase saliva production to buffer gastric acids.
- Turn out on pasture or provide access to excellent quality legume, grass or mixed hay.
- Legume hay is preferred due to higher calcium which can aid as a buffer.

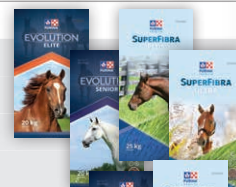
Recommended:

EQUILIBRIUM TRIMAX
EQUILIBRIUM LEGEND XT
EQUILIBRIUM XCEL HD
SUPERFIBRA INTEGRIT



Alternatives:

EVOLUTION ELITE
EVOLUTION SENIOR
SUPERFIBRA PLUS
SUPERFIBRA ULTRA



Broodmares:

EVOLUTION MATERNITY
SUPERFIBRA NATURE (see note)



Use **SUPERFIBRA NATURE** or **SUPERFIBRA CLASSIC** as a forage supplement to increase the fibre in the ration. Fibre will increase saliva production and gastric activity, thereby reducing the risk of ulcers.

Use **HORSE-SHIELD** to improve nutrient absorption (for example, simple sugars to reduce gas produced by their low absorption rate). Additionally, live yeast helps increase fibre digestibility and helps create an optimal environment in the equine digestive system.

NOTES : The selected Purina feeds should contain at least 15% fibre. High fat feeds are recommended, especially if they contain a balanced omega-3 to omega-6 ratio. **The NSC content** of each Purina feed is included in its fact sheet. This additional information is of particular interest when selecting a feed to help in the treatment, control or prevention of a specific equine pathology.

Choose a feed in a form that is easy to digest and assimilate for the animal such as multiparticle, extruded or pelleted feeds. Select feeds that contain a minimum of 15% fibre. The total ration should not exceed 8% fat (be careful not to confuse this percentage with the fat level on the label of the product).

Selection should also focus primarily on feeds containing pre- and probiotics, including complete yeast cell membranes, yeast culture and a mixture of live bacteria. Alternate feeds can also be considered according to the above-mentioned criteria and contain probiotics in the form of yeast culture.

Nutritional management should be assessed and changed if necessary by increasing the frequency of meals per day and by feeding hay a minimum of 30 minutes before concentrates. It should also be recommended to use a slow feeder hay net to slow consumption and increase salivation, or to offer hay free choice to allow for continual consumption.

SuperFibra Nature is an interesting complement to the above-mentioned feeds because of its high fibre and calcium-rich alfalfa content which have a buffering effect on gastric acid.

The monitoring of the animal's medical condition as well as dietary recommendations are essential to improve the animal's health. Results following changes and treatment may vary from one animal to the next and additional changes may be necessary.

FEED RATE PROTOCOL NOTICE

This feeding protocol described here pertains only to Cargill Limited Horse Feeds. There is not established feeding protocol that all feed companies must follow. Purina provides two feeding rates on their tag a "Minimum" and a "Purina Superior". The "Minimum" meets the levels established by the NRC Nutrient Requirements of Horses (2007), which will prevent all classic nutritional deficiencies. The "Purina Superior" is a greater level of fortification that promotes an optimal level of performance and immunity. By no means does that imply "Minimum" is subpar, and for the non-competitive horse, that stays home year round and has no health issues there is probably no need to exceed this level. However, if you are feeding a true equine athlete, with all the immune stresses associated with that level of competition, then the "Purina Superior" level is paramount to ensure an optimal level of performance and immunity.