

ignophagia. Ligno-what? Lignophagia is the fifty-cent word for the ingestion of wood. In the horse, this usually expresses itself as wood chewing or cribbing.

Cribbing (also called crib-biting) and wood chewing are both vices or stereotypies, repetitive behaviors that seem to have no obvious purpose. Interestingly, stereotypies are not limited to horses. Other livestock perform stereotypies: breeding sows often bite the bars of farrowing crates, chickens and other fowl peck the feathers from one another, and cattle may exhibit tongue rolling (repeated extension of the tongue followed by rolling the tip back into the mouth). Wood chewing and cribbing are the two most prevalent stereotypies in equine populations. According to the results of six surveys conducted in various countries, it is estimated that 12% of adult horses wood chew and 4% crib. Wood chewing and cribbing are not synonymous, and the purest of equine behaviorists are quick to differentiate the two.

Wood chewing is simply the nibbling and splintering of wooden surfaces with the teeth; sometimes the wood is swallowed and sometimes not. This behavior is thought to spring from the horse's natural appetite for a varied diet. In the wild, horses often browse bushes and shrubs for roughage. Wood chewing is usually practiced in several locations, with horses showing little preference where and when to partake in the vice. This behavior is typically performed independently of other behaviors.

## Putting the Kibosh on **CRIBBING**

Cribbing, on the other hand, is usually only one element in a behavioral sequence. For instance, horses regularly crib between mouthfuls of hay or grain or following the completion of a concentrate meal. True cribbers will set their upper incisors (front teeth) against a stationary object, arch their neck, and pull back, frequently emitting grunt-like vocalizations when bracing against the object. The characteristic sound is actually the expelling of air from the mouth; aerophagia, or ingestion of air, is not characteristic of cribbing, contrary to widely held beliefs. The posture these horses adopt during cribbing places considerable strain on the ventral muscles of the neck (those on the underside), the esophagus, and the pharynx, a musculomembraneous passage that lies between the mouth and nasal cavity and serves both the respiratory and gastrointestinal systems. Horses devoted to the vice typically have one or two preferred places to crib in the stable or pasture.

Cribbing is not only destructive to wooden structures such as fence rails, stall and feeder ledges, and post tops, but it also affects the physical well-being of the horse. The vice can cause excessive wear of the incisors. Committed cribbers may actually wear their teeth to mere nubs, which can hinder their ability to graze, especially when pasture grasses are short. Because cribbers often prefer to engage in this vice rather than eat, some have a difficult time maintaining weight.

Cribbing can be fiscally detrimental when horses are raised with the intention of consigning them to public auctions. The majority of sale companies that sell Thoroughbreds and Standardbreds do so with a cribbing clause, meaning simply that the vice must be disclosed to all potential buyers. This declaration can often keep a horse from reaching a final bid reflective of its breeding or ability.

What provokes a horse to crib? Researchers remain divided in determining why horses partake in this vice.



Denver Brown

Noted equine behaviorist Sue McDonnell, Ph.D., founder of the equine behavior program at the University of Pennsylvania Veterinary School, mentions in her book *A Practical Field Guide to Horse Behavior: The Equine Ethogram* that horses very seldom crib in the wild. The rituals involved in domestication, therefore, seem to play a role in the development of the vice. Possible causes include confinement, low-roughage and high-concentrate diets, and limited grazing.

In foals, cribbing is often related to feeding schedule and composition of meals. Infrequent or interrupted suckling has been linked to low gastric pH, a scenario that may predispose foals to ulcer formation, especially when foals spend an unusual amount of time lying down. As foals mature, the introduction of concentrates into the diet is often blamed. Researchers have linked concentrate feeding with spikes in gastric acidity and subsequent ulceration of the stomach lining. Some owners relate that young horses begin cribbing during an illness, which may involve periods of inappetence and confinement.

Clinical signs of gastric ulceration in foals are sluggish growth, rough hair coat, pot-bellied appearance, teeth grinding, and colic. In severe cases, gastric ulcers may perforate and induce peritonitis, a widespread and usually fatal inflammation of the membrane that lines the abdominal cavity.

## Breathing New Life Into An Old Theory

In the late 19th century, Edward Mayhew authored *The Illustrated Horse Doctor*, and in this text he proposes a remedy for crib-biting horses: “a lump of rock-salt in the manger (and) a large piece of chalk; should these be unavailing, always damp the food, and at each time of feeding, always sprinkle magnesia upon it, and mingle a large handful of ground oak-bark with each feed of corn.” Modern researchers revisited Mayhew’s theory, however unconsciously, and began pondering the notion of feeding a remedy for cribbing.

In a study conducted by the University of Bristol in the United Kingdom, scientists evaluated the effectiveness of an antacid on the incidence of cribbing in foals. The antacid used in the study was Neigh-Lox (Kentucky Performance Products, 1-800-772-1988).

Participation in the study was based on strict criteria. In order for foals to be considered, they had to be cribbing less than 20 weeks and no previous attempt to prevent cribbing, including surgery or electric shock treatments,

may have been tried. On-site inspections of the foals allowed researchers to determine if the subjects were true cribbers or merely dedicated wood chewers.

Thirteen crib-biting foals and eight control foals (non-cribbers) were included in the study. Of the cribbing foals, the average age at the onset of the vice was 153 days, and the average number of days cribbing prior to the beginning of the study was 89.

The horses were assigned to one of two diets, the control diet or the antacid diet. The control diet consisted of a forage (fresh and dried) and a typical concentrate containing cereal grains (oats, wheat, and

barley), wheatfeed, soybean meal, peas, full-fat linseed, vitamin and mineral supplements, and molasses. Six crib-biting and four control foals were given this diet. The remaining foals, seven crib-biting and three control, were offered the antacid diet, which consisted of the control diet and approximately 125 g of supplemental antacid divided between feedings.

Horses were observed several times throughout the three-month trial. In addition to visual observation, foal stomachs were examined endoscopically to determine their health during the first week of the trial and one week following the conclusion of the study. A video record of each endoscopy was maintained, and samples of gastric fluid were taken to determine pH. Written descriptions of the findings were generated by the veterinary endoscopist and a second independent veterinarian.

Although few in number and generally mild in severity, gastric ulcers were detected in eight crib-biting foals at the onset of the trial, and profound ulceration was documented in another foal. At the conclusion of the trial, degree of ulceration had changed considerably in crib-biting foals that had received the antacid. In fact, horses fed the antacid diet had fewer ulcers and less inflammation than horses fed the control diet. Horses with mild ulcers at the beginning of the trial were ulcer-free after three months on the diet. Some foals ceased cribbing altogether once stomach lesions healed. Young horses fed the control diet showed either no change or worsened; none of the ulcers in these horses resolved.

This study demonstrates an obvious relationship between cribbing and gastric health. Crib-biting appears to be an attempt by horses to lessen the discomfort caused by ulcers; cribbing stimulates the flow of saliva, which reduces the acidity associated with concentrate feeding. As the stomach environment becomes healthy, there is less propensity for horses to crib.



Many stressed horses develop ulcers.



Neigh-Lox  
is recommended  
for all the  
stressful times  
in your horse's life.



Yours shouldn't be one of them.



For more information call 1-800-772-1988.