Cribbing, also referred to as crib biting, windsucking, or aerophagia, is a stereotypic behavior seen in about three percent of horses (ASPCA, 2015). This behavior involves a horse placing its front teeth on a horizontal surface, arching its neck, pulling backward, and gulping air (Bohanon, 1996). Cribbing can have many negative implications including dental problems, weight loss, colic, and destruction of property (fence posts, stall doors, etc.). Many horse owners and managers attribute cribbing to boredom, which is why horses allowed access to pasture often exhibit fewer stereotypical behaviors than stalled horses (Bott et al., 2013). One way to manage cribbing is with the use of a cribbing collar, a leather and metal strap that is designed to create discomfort when a horse cribs. There is also a surgical procedure that involves clipping a number of muscles that disable the horse from cribbing. Managing a horses environment could be a less extreme way to diminish or eliminate cribbing behavior. A study conducted by Whisher and colleagues in 2011 sought to determine the environmental factors that affect cribbing. They hypothesized that providing more distractions or variety in the form of diet, taste-dispensing toys, and exercise may reduce cribbing rates.

Sixteen horses that varied in age, gender, and breed were used in this study. Horses were housed in stalls that allowed horses to see, hear, and smell but not physically interact with one another. Every day horses were released into a grassless paddock for 30-60 minutes. Behaviors such as mouthing, licking, and cribbing were recorded using video cameras. To examine the effect of diet on cribbing rate six horses were fed a diet of oats or sweet feed twice a day. Results showed that diet had a significant impact on the cribbing rate of horses. Horses fed oats exhibited a cribbing rate of 15.5% of the day while horses fed sweetened grain exhibited a cribbing rate of 27% of the day. Studies by Kusunose (1992) and Gillham et al. (1994) showed an increase in cribbing frequency following concentrate meals as opposed to roughage meals.

In addition to diet effects, this study also sought to determine the effects of food or taste-dispensing items on cribbing rate. Four different toys were used for this test: the feeding ball (Figure 1), which dispensed pellets when rolled; the sweet (Figure 2), a cylinder filled with a gelatin sugar mixture; the spinning sweet (Figure 3), also containing a sugar gelatin mixture; and the hanging sweet (Figure 4), a combination of the sweet and spinning sweet. Results showed that the spinning sweet was the toy that most significantly decreased cribbing rates. Another study by Jorgensen, Liestol, and Boe showed that enrichment items such as a cone or straw placed on the ground decreased the amount of passive behaviors (standing or lying) in individually housed horses. A decrease in passive behaviors could correlate to a decrease in cribbing behavior if cribbing is in fact caused by boredom.

To determine the effects of exercise on cribbing rate six horses were exercised by lunging them in an indoor round pen every other day. Horses that were not exercised exhibited a cribbing rate of 25.3% of the day while horses that were exercised for 20 minutes exhibited a cribbing rate of 30.6% of the day. One possibility for the increased cribbing events seen in horses that were exercised is that the horses viewed the round pen as a stressful situation. The physiological consequences of crib-biting horses in response to an ACTH challenge test was studied by Freymond and colleagues in 2011. Horses were injected with adrenocorticotropic hormone (ACTH) to simulate stress and then saliva cortisol levels were measured in crib-baters and non-crib-baters. Results showed that crib-baters who did not exhibit cribbing behavior during the test period had significantly higher cortisol levels than the control horses. This difference was not seen in crib-baters who did exhibit cribbing.
behavior during the test period. These results suggest that cribbing is a coping behavior that reduces cortisol levels caused by stress (Figure 5).

Figure 5.
Cortisol response to ACTH injection (indicated by syringe) in crib-biters that did not crib during the test period (light grey), crib-biters that did crib during the test period (dark grey), and non-crib-biters (white).

The Whisher et al. study had some limitations. One of which is the small population of 16 horses. In some cases only 6 horses were observed for cribbing behavior. Another limitation is that the horses used in this study were all long-term cribbers. If this experiment were to be performed on a population of weanlings or horses that had just begun to mimic cribbing behavior seen in another horse the results could be very different. Although altering the environment using diet, taste-dispensing toys, and exercise did affect cribbing rates; cribbing behavior was not entirely eliminated. Currently available research suggests that the only way to effectively eliminate cribbing behavior is with the use of collars or a surgical procedure. If cribbing is in fact a method for coping with stress, preventing this behavior becomes an issue of animal well-being. Further research needs to be done to determine what causes horses to become cribbers, which would make it easier to alter the horse’s environment prior to their first cribbing event and thus prevent a lifelong problem.
Environmental Factors That Affect Cribbing

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References


