



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

Visit our Website at: www.extension.umn.edu/horse for more information and to subscribe to the newsletter.

Volume 13, Issue 8

August 2017



Research Update: Storage Methods for FEC

Parasite infection status, intensity and resistance have traditionally been quantified via flotation techniques, but the need for immediate analysis following defecation imposes limitations and has led to the use of several fecal storage techniques. However, their effect on egg counts has not been validated and is often generalized despite evidence of differences between species.

Researchers from England used a model to examine the impact of commonly used storage techniques on egg recovery including the use of high and low concentrations of ethanol and formalin fixative solutions for up to four weeks and refrigeration (37-41°F) over a two-week period.

A significant decline in fecal egg counts (FEC) following storage in high and low

concentrations of both fixative solutions after two weeks was found, which stabilized after four weeks. FECs remained relatively stable over a week of refrigeration, but declined when refrigeration exceeded 8 days.

Based on this research, samples bound for FEC analysis should not be refrigerated for more than one week. Storage in either fixative solution is sub-optimal for the preservation of eggs, although the uniformity of the decline across samples could hold potential for projective calculation of parasite egg shedding when storage time is effectively controlled for.

For more information on this research, click [here](#).

Summarized by Krishona Martinson, PhD, University of Minnesota

Ask the Expert: Grazing Muzzle Use

Question: I put a grazing muzzle on my fat gelding. He is ridden multiple times a week, but is an easy keeper. He shares 8 acres of pasture with one other horse. Should I leave the grazing muzzle on all the time or give him an hour of freedom without the grazing muzzle each day?

Response: We know from past research that a grazing muzzle reduces intake by 30% and that some horses can become very adept at grazing through a muzzle. As long as the horse can easily access water and can tolerate wearing the muzzle, we recommend leaving the muzzle on all day for an overweight horse with access to pasture. A 30% reduction in calories (or pasture) should result in weight loss.

Research has also shown that horses with access to as little as 3 hours of pasture each day can consume a majority

of their daily calories and can anticipate and adjust to the restricted grazing schedule.

Owners should track their horse's bodyweight and body condition score each month. Reduce the amount of time the horse is muzzled if excessive bodyweight and body condition is lost. Conversely, if the horse starts to gain bodyweight (or is not losing bodyweight), it might be best to house the horse in a drylot and feed a reduced calorie hay diet (i.e. mature grass hay). The goal should be for the horse to lose weight slowly but steadily.

If excessive bodyweight continues to plaque the horse, we recommend working with an equine nutritionist and your veterinarian to identify additional solutions for weight loss.

By: Krishona Martinson, PhD, University of Minnesota

Inside This Issue

Research Update: Storage Methods for FEC	1
Ask the Expert: Grazing Muzzle Use	1
Geriatric Horse Care: Dental Care	2

Upcoming Events

Equine Pasture

Management Program

One farm visit and a customized pasture and grazing management plan
April 1 - August 1, 2017
\$650 per farm
To register, click [here](#).

Lunch and Learn Webinar

Managing Ash in Hay
August 23 at noon (central)
To join the free webinar, click [here](#).

Horse Owner Education Program

October 21, 2017
UMN Equine Center
St. Paul, MN
Program and registration information available in September.

Youth Horse Owner Extravaganza

November 4, 2017
UMN Equine Center
St. Paul, MN
Program and registration information available in September.

The University of Minnesota is an equal opportunity employer and educator.



Geriatric Horse Care: Dental Care

By: Alex Bianco, MS, DVM, University of Minnesota

While the relationships between humans and their domestic pets are varied and complex, the connection between horse and owner is unique in that it often spans years to decades. While the horse has a prolonged lifespan, often 20 to 30 years, in nature this lifespan is limited by the degenerative changes that accompany advanced age.

With advancements in veterinary medicine and the shift of the horse's role in society from beast of burden to a valued companion, more horses are reaching geriatric age (>20 years). To promote healthy longevity, early recognition and treatment of the special needs of geriatric horses are important tasks for both you and your veterinarian.

There are three major components to caring for the geriatric horse: dental care, management of osteoarthritis, and management of pars pituitary intermedia dysfunction (PPID). This is the first of three articles that will cover each of these aspects of geriatric horse care in detail.

Most horse owners understand that adult horses have premolars and molars ("cheek teeth") that continuously erupt over their lifetime. However, the entire adult premolar/molar is fully formed within the bones of the jaw (maxilla and mandible) and only a portion of the tooth is visible (picture an iceberg). This unerupted tooth is called the "reserve crown" and may be up to 4 inches long. Starting in their late teenage years/early 20's, a horse may start to run out of reserve crown on any given tooth. This tooth may be called "expired" to signify that the horse has not lost the tooth but it has simply run out of reserve crown.

Aside from the natural expiration

of teeth, geriatric horses are also prone to dental disease that can result in teeth falling out or being extracted by a veterinarian. Because each set of premolars and molars erupts at a different age, they also expire at different ages. These can lead to gaps between teeth (diastemas) and teeth of varying heights ("wave mouth") which causes abnormal chewing patterns and uneven wear on the teeth. These variations in dentition, combined with the rough nature of forage and the natural bacterial population of the mouth, can lead to secondary infections of the teeth below the gum line, at the tooth root. Bacterial tooth root infections typically result in loose, and/or fractured teeth. If the tooth is an upper molar, the infection may also spread in to the maxillary sinus and cause a secondary bacterial sinusitis. While dental infections rarely lead to systemic disease, dental abnormalities or tooth root infections often result in ineffective or painful chewing which results in decreased feed intake, weight loss, and increased risk of esophageal obstruction ("choke").

Key facts for dental care of your geriatric horse include signs of dental disease, oral examinations, dental floating (occlusal equilibration), and nutrition.

Signs of equine dental disease include dropping feed, malodorous or bad breath, nasal discharge, and/or weight loss. If these signs are observed, schedule an oral exam as soon as possible as these may be signs of dental disease.

Geriatric horses should have an oral exam every 6 months. A sedated oral exam using an oral speculum should be utilized at least once a year as it is the only way to

properly evaluate for fractured or loose teeth, especially molars.

Prior to being a teenager, your horse may only need their teeth floated every 1 to 2 years. While they may be "routine" floats, establishing a preventative dental care program will help your horse transition in to old age.

A dental float should be performed by a veterinarian at least once a year once horses reach geriatric age. This is the best way to identify dental abnormalities prior to the development of secondary complications.

Only a veterinarian should be used for dental care, as only a veterinarian is trained to (and legally allowed to) appropriately sedate your horse and properly diagnose and treat disease.

The more missing or expired teeth a horse has, the more difficult it will be for the horse to sustain their body weight on hay alone.

The development of complete pelleted feeds have revolutionized our ability to maintain geriatric horses that cannot get what they need from hay alone. Your veterinarian may recommend that a complete pelleted feed be your horse's primary diet, with or without supplemental hay.

Your veterinarian may recommend a fat supplement to provide additional calories if your horse still has difficulty maintaining their weight. An equine nutritionist should work with your veterinarian if weight loss becomes an issue for a geriatric horse.