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Augusta Cooperative Farm Bureau, Inc.

AGRONOMY & EQUINE EDITOR

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WHY IS MY HORSE EATING DIRT?

HORSES MIGHT EAT DIRT DUE TO NUTRIENT DEFICIENCIES, AMONG OTHER CAUSES.

Q: I caught my horse licking and eating dirt in her paddock. Is this normal? She's currently on pasture all day and receives a ration balancer.

A: It is not necessarily normal for horses to eat dirt, and trying to figure out why and how to stop horses from eating things we don't want them to can be challenging. The term "pica" refers to persistent eating of non-nutritive substances for at least one month's time and occurs in many animals. In some cases specific nutritional deficiencies can trigger unusual cravings, such as a long-term phosphorus deficiency causing cattle to eat bones or significant amounts of dirt. However, in horses these behaviors most often represent a normal physiological or foraging response.

Geophagia refers to eating dirt and is reported to be relatively common in feral and domestic horses. It is a behavior where horses actively bite or lick the ground to specifically eat dirt. Logic would suggest this to be a search for salt or minerals, but analysis of soils shows no consistent mineral profile of consumed versus non-consumed soils. The soils tested varied tremendously in mineral content, although results from one study from Australia reported higher iron and copper in soil sites horses tended to consume. The challenge is domestic horses that are fed diets providing plenty of salt and minerals have also been seen consuming dirt, so geophagia is not simply a pursuit of minerals.

Anecdotal evidence indicates dirt-eating might be more common in stallions than in mares or geldings, but no studies of gender effects on geophagia have been reported. Surprisingly, in a 2016 study on colic risk factors, researchers in Egypt reported that horses practicing geophagia were less likely to have history of colic.

Although geophagia is generally considered harmless, excessive consumption of sandy soil, and particularly accumulation of sand in the digestive tract, can lead to mucosal irritability and potentially obstruction or motility disorder. Some horses are more prone to eating or accumulating sand than others, even when eating the same diet under the same conditions. Grazing pastures on sandy soil, lower herd hierarchy, inadequate forage consumption, feeding grain on the ground, and low body condition and young age are all factors that might contribute to increased sand ingestion. Both stall confinement and frequent transportation might also be contributing factors to accumulation of ingested sand due to reduced gut motility.

If you observe a horse exhibiting unusual eating behaviors such as geophagia, evaluate the nutritional balance of the diet, the availability of ample roughage, and the general environment for potential causes of the behavior. A veterinary exam to detect parasite infestation or gastric or other health issues might also be warranted. If the diet is adequate, the horse is healthy, and other factors are not at play, then it might be a simple case of boredom or acquired taste. Decreasing time spent in confinement, providing a companion, and increasing exercise might help alleviate the problem.

The Horse

HOW TO GET A HORSE'S COAT TO DAPPLE

A DAPPLED COAT HAS LONG BEEN A SIGN OF OPTIMUM EQUINE HEALTH AND GOOD NUTRITION, BUT THE REALITY BEHIND DAPPLING IS MORE COMPLICATED. OUR EQUINE NUTRITIONIST OFFERS ADVICE ON BRINGING OUT THE BLOOM IN YOUR HORSE'S COAT.

Q: Earlier this year I purchased a mare who had a dull coat and needed to gain weight. After several months she now looks amazing and has developed beautiful dapples. I've always heard dapples are related to diet, specifically fat. However, I don't feed her that differently than my other horses, and they don't have dapples. Why do some horses get dapples and some don't?

A: Dapples on nongray horses are interesting. These irregular spots where the coat appears as a slightly different shade are seen on some horses but not others. Horses might only get them at certain times of the year. In the winter some horses have them, but when you clip them the dapples disappear. And as you have observed, dapples often appear to be condition-dependent. Traditionally, they are thought to be a sign of good health, so that would somewhat explain the condition connection.

While there does seem to be a nutritional component to horses having dapples, there is far more to it than that. As with all coat colors, dapples are, in part, controlled by genetics. Dapples result from variation in the patterns of red vs. black pigment along the hair shaft, rather than changes in pigmentation across the skin. This is why they disappear when you clip a dappled horse. Genes that respond to changes in nutrition control the deposition of black pigment along the length of the hair. Chestnut horses and those with colors in the chestnut family lack the ability to create eumelanin and, therefore, do not display strongly pigmented dapples. However, they may still have the variant responsible for dapples, which they can pass to their offspring.

You will need to work to create the optimal conditions for dapples to occur. This is where condition, management, and nutrition come in.

Your best chance of having dapples occur is to ensure all the horse's dietary needs are met, his diet is balanced, and his coat is well-looked-after. Start with your forage. Feed the best-quality forage you can, and make sure your horse is getting enough. Stomach ulcers can wreak havoc on coat quality, so feeding plenty of forage to keep the digestive tract happy is an important component.

Make sure your horse's diet is providing adequate quality protein and the amino acids lysine and methionine, which are the most limiting. Some old-time horse managers swear that protein is crucial for dapples and that it will put bloom on the coat. Fatty acids will help improve shine, too, so consider feeding a small amount of oil or high-fat seed meals such as flax. However, stay away from oils high in omega-6 fatty acids in favor of those high in omega-3 fatty acids, which might help reduce itching and improve skin quality.

Trace mineral levels should also meet requirements. For instance, zinc and copper can be low in forage-based diets or when commercial feeds are fed incorrectly. Both these trace minerals are needed for melanin production, so they directly impact coat color. Seek help from a nutrition professional if you are unsure whether the existing diet is meeting these needs.

Beyond diet, grooming practices are vitally important for coat quality. So often we are in a rush when we get to the barn and take barely a minute to flick our horse's coat off before tacking up, but try spending at least 10 to 15 minutes grooming your horse at least several times a week, and you will see the benefits. Start with a rubber curry to stir up all the dirt, and then remove it with a stiff brush. In the summer, or if your horse is clipped, finish off with a soft brush. Going through these stages brings the natural oils to the coat's surface, creating an amazing natural shine that no amount of bathing can produce. Clean your brushes frequently so you aren't just putting the dirt back on the horse. Grooming this way has the added advantage of raising your heart rate and warming you up to ride.

If you take all these steps and still do not see dapples, don't be disappointed. Genetics might not be in your favor, but your horse will still look stunning. And who doesn't love a horse with a mirror-like coat and show ring bloom?

The Horse

4 MISCONCEPTIONS ABOUT ALFALFA

DOES ALFALFA CAUSE KIDNEY OR RESPIRATORY PROBLEMS OR MAKE HORSES HYPER? SPECIALISTS SHED LIGHT ON THESE MYTHS AND MORE.

Despite all the science-backed suggestions about feeding alfalfa, it remains a misunderstood forage. The following are a few misconceptions worth clarifying.

MYTH: AN ALFALFA-RICH DIET CAUSES KIDNEY PROBLEMS.

"A normal, healthy horse can metabolize and excrete the extra protein in alfalfa just fine, if the horse has adequate water," says Ray Smith, PhD, forage extension specialist at the University of Kentucky, in Lexington. Horses with kidney disease shouldn't consume a high-protein diet (such as alfalfa), but the alfalfa itself won't cause kidney disease.

MYTH: ALFALFA MAKES HORSES HYPER.

"I don't think there is any scientific basis for this," says Krishona Martinson, PhD, associate professor and equine extension specialist at the University of Minnesota's Department of Animal Science, in Falcon Heights. "Alfalfa does have more energy compared to grass hay of similar maturity, so perhaps a horse eating a lot of alfalfa in the absence of exercise may have more energy. The biggest issue with alfalfa, however, is weight gain in horses that don't have adequate exercise."

MYTH: ALFALFA HAS HIGH NONSTRUCTURAL CARBOHYDRATE (NSC) LEVELS.

"Cool-season grasses like timothy, bromegrass, and orchardgrass actually have higher nonstructural carbohydrate content and sugars than legumes," says Martinson. "Horses with carbohydrate sensitivity (e.g., obese horses, those with laminitis, equine metabolic syndrome, equine Cushing's disease, or polysaccharide storage myopathy) need their diet carefully monitored for nonstructural carbohydrates and can benefit from including some alfalfa rather than grain or cool-season grasses."

MYTH: ALFALFA AGGRAVATES RESPIRATORY PROBLEMS IN HORSES WITH HEAVES.

Some horses tend to cough more when fed alfalfa, but this is due to irritants such as dust and mold rather than the alfalfa itself. Alfalfa can be dustier than grass hay when moisture conditions at baling are less-than-ideal. Alfalfa leaves also tend to shatter when too dry, creating more dust particles.

"Mold formation is also related to moisture content when baling," says Martinson. "One issue with alfalfa—which tends to have more stem than grass—is that the stem takes longer to dry. Alfalfa might take 12 to 24 hours longer to dry than a grass crop, simply because it has more stems. Moldy grass hay or moldy alfalfa hay both cause airway irritation when mold dust is inhaled."

TAKE-HOME MESSAGE

The horse industry is full of misconceptions about alfalfa. Before dismissing this nutrient-rich forage, contact your veterinarian or equine nutritionist to develop a feeding program that's right for your horse.

The Horse

EQUINE VACCINATION CHEAT SHEET

LEARN ABOUT THE AMERICAN ASSOCIATION OF EQUINE PRACTITIONERS' RECOMMENDED CORE AND RISK-BASED HORSE VACCINES IN THIS HANDY SPECIAL REPORT. SPONSORED BY BOEHRINGER INGELHEIM.

The reason we vaccinate our horses is simple: We want to minimize their risk of contracting a life-threatening and/or infectious disease. With that said, the American Association of Equine Practitioners (AAEP) has designated certain vaccines as "core vaccines" all horses should receive annually, regardless of age, use, or location. Use this AAEP Vaccination Guidelines-based "cheat sheet" and work with your vet to devise an immunization program that's right for your horse.

To view the vaccination cheat sheet, scan the QR code
or visit our website at https://www.augustacoop.com/equine-vaccination-cheat-sheet/

The Horse

READING YOUR HORSE'S INNER HOOF STRUCTURES

EXPERTS DESCRIBE WHAT'S GOING ON INSIDE HOOVES OF HORSES WITH SHEARED HEELS, WHITE LINE DISEASE, ABSCESSES, AND OTHER COMMON HOOF CONDITIONS.

Your horse's hooves are amazingly complex structures designed to communicate with the central nervous system, carry weight, and absorb concussion. Each hoof's intricate parts and their corresponding functions normally work together to support and propel him, pain-free.

But what's happening inside the hoof when pain, resulting from injury and/or disease, sets in? Our sources—Ann-Marie Hancock, DVM, EDO, and Tim Rogers, DVM, of True North Equine Veterinary Services, in Warrenton, Virginia; and Paige Poss, partner in Anatomy of the Equine LLC, in Tucson, Arizona; presenter at the Northeast Association of Equine Practitioners (NEAEP) symposium; and a longtime hoof trimmer whose hoof dissection photographs have helped shed light on hoof pathology (disease or damage)—reveal what they've learned dealing with six common hoof conditions.

SHEARED HEELS

What are they? The two heel bulbs at the back of the horse's foot can become unbalanced due to conformation faults or improper trimming, causing either the inner or outer heel bulb to be higher than the other. This can lead to pain and lameness along with hoof wall injuries such as cracks and thrush.

How can I spot them? When viewed from the rear, one heel bulb is noticeably higher than the other.

What's going on? The hoof capsule (the hoof wall, sole, frog, and heel bulbs, which form a casing that protects the soft tissues and bony structures within) is moving, shifting from its original, correct placement, says Poss.

"Some think that sheared heels are more from improper landing and are more a motion problem than a static problem and try to trim them to get both heels (of the affected hoof) to land at the same time," Rogers says.

Poss cautions, however, that balancing the hoof capsule can unbalance the bony column (the bones up the leg): "For example, think of walking with a wedge under the inside of your shoe's heel; you'd have to bow your knee out and adjust through your hip and all the way up your body.

"At some point," she continues, "I absolutely want veterinary involvement to get radiographs (X rays) so I can really see if the bony column is unbalanced or if it's just distortion in the hoof capsule."

"Paige and I have found that if we can change the body mechanics so the horse is lifting through the shoulder and he's more base-wide, instead of tightrope-walking with his feet close together, his landing pattern is more normal," Hancock says.

They accomplish this through body-work such as osteopathy and chiropractic. She adds that changing the horse's body posture/movement also changes his stance, so if loading during stance phase (when the foot is in contact with the ground) or even normal weight-bearing while walking around the paddock is causing sheared heels, changing the horse's basic posture and conformation could be key to changing sheared heels in a more permanent way than farriery alone.

"Some people are starting to look at thermography of the sole to determine the horse's load-bearing pattern," adds Poss. "If they're only load-bearing on one side of the foot, you might address that as part of the capsular distortion."

SIDEBONE

What is it? Lateral cartilages (which slope up and back from the wings of the coffin bone), most often in the forefeet, become calcified due to excessive concussion or how the hoof is landing due to conformation and/or shoeing.

How can I spot it? Horses with sidebone are either asymptomatic and diagnosed on radiographs or have mild to moderate lameness that has been localized to that region of the foot, and other lameness causes have been ruled out.

What's going on? Although most cases of sidebone occur in draft breeds due to the concussion caused by their sheer weight, Hancock says when she does see sidebone in light breeds, it occurs on the side of the foot the horse lands on—the side that receives the most concussion.

Most of the time, says Hancock, this has more to do with a rolling, lateral-to-medial (outer to inner) landing pattern and a horse that stands base-narrow, maybe toed in with a shorter lateral wall and a higher, upright medial wall.

"The medial side takes the concussion and landing, as the lateral side lands first, rolls, and then the medial side will slap down last," she says. "The concussion is what stimulates the wall growth and can also irritate the area of the lateral cartilage, causing it to try to lay down bone for stability."

"You can try to reduce concussion by getting a proper heel-first landing using the back of the foot, but I've never seen anyone reverse sidebones," Rogers says.

continued on page 5

continued from page 4

WHITE LINE DISEASE, AKA SEEDY TOE

What is it? Degradation of the white line (between the sole and hoof wall).

How can I spot it? It's a crumbly, mealy condition of the white line that you might notice while picking your horse's hooves.

What's going on? Poss says that from her observations, both white line disease and chronic hoof cracks are accompanied by changes to the internal structures supporting the wall, white line, and sole and, behind that, the coffin bone.

"You can think of the coffin bone as a trellis that the laminae (the tissues that connect the hoof wall to the coffin bone) and sole corium (composed of the hairlike papillae over the entire inner surface of the sole) rest on, and now part of that lattice is gone," she says. "You still have the laminae, the sole corium, and the tissues that are growing the white line, but they no longer have a good place to sit so they end up melding together."

While the body develops ways to repair damage, the repaired structure might not be as good as the original. "When the hoof wall begins to peel away from the coffin bone, or if the laminae and coffin bone are damaged, the body is going to fill in any space," explains Rogers. "The hoof wall is tubular horn and intertubular horn, and what you end up with is only the intertubular horn excreted to fill in that space. It's like fiberglass being made up of mesh and glue, and it's the two ingredients that make it strong. With white line disease, the gap is filling in with just the glue, so it's weaker and porous and a great place for bacteria and yeast to get into. When resected, the wall looks more like coral than wax."

Treatment for white line disease should address the mechanical problem and build a healthier connection between the inner (reaching out from the coffin bone) and outer (reaching out from the hoof wall) laminae, says Hancock. "This would include decreasing stretch at the toe and opening up any crumbly, infected areas, as well as balancing the foot for the long term," she explains.

THRUSH

What is it? An opportunistic bacterial infection of the frog (the collateral grooves you pick out when cleaning your horse's feet or the central sulcus—the single groove at the center of the frog).

How can I spot it? Sometimes you'll smell it before you see it, though thrush in the central sulcus can be odorless.

What's going on? While thrush in the grooves at the side of the frog can cause discomfort, Poss says thrush in the center of the frog tends to be most painful.

"Thrush that happens in the center of the frog can get surprisingly deep and erode down to soft tissue and the corium," she says.

Hancock says horses with these deep, narrow cracks between the heel bulbs often don't have discharge or, again, smell, but if you try to palpate between the heel bulbs, the horse is acutely sensitive. These horses need medical treatment—often topical antibiotics or antifungals—to help heal the area before the horse is willing to bear weight on it and to improve circulation in the digital cushion (the soft tissue beneath the sole that separates the frog and heel bulb from the underlying tendons and bones) and caudal (back) heel structures.

"When I look at the bottom of the foot, if I see a nice, wide frog with a central sulcus that's open, that's a healthy foot," says Rogers. "But when I see a long, skinny frog that's stretched and the central sulcus is a tiny slit, that tells me the foot isn't using that frog properly. The real problem is that we have an unhealthy frog, probably with poor circulation, and that invites bacteria to come live there."

Poss says immunosuppressed horses can be at particular risk of poor circulation in the limbs and feet because of inflammation in their body. "It's the health issue that caused the problem (rather than wet conditions), and the thrush is just eating the dead tissue," she says. "If you're not treating what's causing the issue, you're just treading water."

In these cases consulting with a veterinarian to look at hoof health, sole thickness, and bone status using radiographs can be incredibly helpful, says Hancock.

"Using a venogram (an X ray taken of the foot after contrast media has been injected into its blood vessels) can also help answer some questions about the overall health of the foot," she says. "Diagnosis and treatment of other underlying diseases can be critical to changing poor circulation and poor hoof growth."

ABSCESSES

What are they? Pockets of infection between the inner and outer laminae.

How can I spot them? Sometimes lameness will be your only indication, but you might also spot a black area at the white line or the coronary band where the infection has broken through.

continued on page 6

continued from page 5

What's going on? Abscesses vary widely in how they appear in different hoof types and conditions, says Poss.

"The way horses blow out abscesses in the heel, sole, and frog is different in different environments," says Poss. "In dry areas where the hooves are super, super hard, the horse tends to stay lame for months (if left untreated). Where it's wetter and moisture gets retained, abscesses seem to follow the path of least resistance and blow out quickly."

"In sandy, wet soil, the feet stay soft but wet, splayed, and flat," adds Hancock. "There, most abscesses don't come out at the sole; rather, they erupt at the coronary band after a few weeks."

Both of the veterinarians and Poss agree that thin-soled horses are more prone to abscesses. "I've been shocked when I go out and do radiographs here (in Virginia) at how many horses I see with one-third inch or less of sole depth," says Rogers. "And when you consider that probably 6 millimeters of that is blood vessels, that means the sole is actually paper thin."

PODOTROCHLOSIS, AKA NAVICULAR SYNDROME

What is it? Lameness involving any part of the podotrochlear apparatus, which includes the navicular bone, the navicular bursa, the coffin joint, the impar ligament, the suspensory ligament of the navicular bone, and the deep digital flexor tendon (DDFT).

The soft tissue structures surrounding the navicular bone support it during standing and movement. If one or more of these structures become compromised, excessive strain on the bone can lead to degeneration or remodeling.

How can I spot it? Your horse will "walk on eggshells," short-stride in front, and be more lame on hard ground than on soft ground. "When you watch them move on a circle," says Hancock, "they'll be lame on whichever foot is on the inside of the circle. If the veterinarian does a nerve block of the heel bulbs on one front leg, then the horse will look lame on the opposite front leg."

What's going on? "Navicular syndrome can be only painful (due to pathology in the) soft tissue, like the frog, digital cushion, and nerve, or it can include damage to the DDFT, the navicular bursa, or the navicular bone," says Hancock. "For more degenerative cases, good frog support may not be enough. Some veterinarians will use wedge shoes or pads or rail systems to take the strain off the deep digital flexor tendon. They may also treat using bisphosphonates, navicular bursal injections, shock wave, or laser therapy to decrease inflammation, improve tissue health, and restore function."

Hancock and Rogers agree that discouraging toe-first landings is critical for caudal heel health. "When horses land toe-first, the coffin joint has to go into extension—which is completely backward," Rogers says. "It has to do it very quickly, and that quick reverse movement puts a lot of tension on all the soft tissues of the caudal foot. That's how you get damage.

"But you have to remember that some horses land toe-first because their heels already hurt," he adds. "Since their heels already hurt and landing toe-first makes the horse worse, now you have to experiment with how to encourage a heel-first landing without causing him pain."

Poss likens it to having a splinter in your heel and someone saying, "I don't care what you've got in your heel; you need to walk on it."

"The message I try to give my clients," she says, "is that you need to build a good team that can work through these issues. It's not a matter of just looking at X rays and doing what the X rays say; sometimes there are mitigating factors (e.g., other health issues) that complicate things. Sometimes the horse just can't load the foot the way the X rays say he should. The bottom line is having patience to allow your hoof care team to work through the experimentation it sometimes takes."

TAKE-HOME MESSAGE

Understanding the physical processes involved with your horse's hoof condition will help your veterinarian and farrier design the optimal course of treatment. As with all illnesses and injuries, maintaining a working relationship with your hoof care team is the best way to achieve a healthy, happy, pain-free horse.

The Horse

EVENTS / CALENDAR

TO VIEW ALL CALENDAR EVENTS, SCAN THE QR CODE.

SMALL ENGINE OPEN HOUSE

Friday, August 25 | 8AM - 5PM &
Saturday, August 26 | 8AM - 1 PM

1205B Richmond Ave. | Staunton, VA 24401

Come in to speak with knowledgeable staff members/ vendors and secure savings on select Husqvarna, STIHL, and Oregon equipment!

FALL BOOKING

Monday, August 14 - Saturday, August 26

All Store Locations

Take advantage of the best prices of the season on all of your animal health, equipment, and farm supply products!

Contact your local store or sales representative for a full sale list and to place orders.

AUGUSTA CO-OP EQUINE, WINE & DINE

Wednesday, September 13 | 5 PM - 8 PM

Lexington Horse Center

487 Maury River Rd. | Lexington, VA 24450

Augusta Co-op has secured the best prices of the year on fencing, equine supplies, supplements, animal health items, feed, equine related farm equipment and more! Vendors will be on site. This organized event, works similar to a 'preorder', or 'booking' and is not available in-store. Plus, hear from industry leaders on innovation & technology during your complimentary dinner and wine sampling. Door prizes, free goodie bags and more!

RSVP required to Allison Bagley - ABagley@AugustaCoop.com.

BACK TO SCHOOL SALE

Monday, September 11 - Saturday, September 16

Staunton Location only.

1205B Richmond Ave. | Staunton, VA 24401

25% off all clothing, boots, and accessories!

In-stock items only. Exclusions Apply. See store for details.

FLOCKTOBER CELEBRATION

Monday, October 2 - Tuesday, October 31

Augusta Co-op – ALL LOCATIONS

Celebrate all things poultry during Flocktober! Visit any Augusta Co-op store during the month of October for deals on a variety of poultry products & feed.

ROAD TO THE RING

Wednesday, November 1 | 5:30 PM - 8:00 PM

Blue Ridge Community College – Plecker Center

1 College Ln. | Weyers Cave, VA 24486

A hands on experience designed for all 4-H/FFA Livestock Showmen. Presenters will inspire you to obtain the skills and techniques needed for success in the show ring! Become a better livestock showman, marketer, herdsman and learn the latest in nutrition and overall animal health.

RSVP required to Allison Bagley ABagley@AugustaCoop.com. Dinner will be provided.

Please note: Road to the Ring will be hosted at a NEW location this year.