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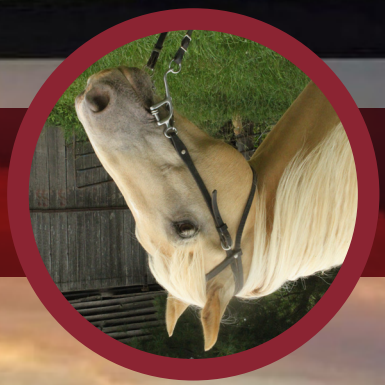

AGRONOMY & EQUINE EDITOR

February 2026

SINCE 1929

Augusta Cooperative FARM BUREAU, INC.

FEEDING HORSES WITH SPECIAL NEEDS

The sneezy, runny-nosed gelding in the barn sleeps on special dust-free bedding. A laminitic pony next door wears custom wedged shoes, and the ulcer-prone Thoroughbred across the aisle lives on a panoply of medications. Veterinary care, pharmaceuticals, and management play crucial roles when addressing disease. But we often overlook an equally powerful player: nutrition.

Many studies have proven a direct link between diet and disease in horses. Moreover, research shows many maladies have a nutritional component, meaning adjusting the diet can improve the condition. Here we'll describe feeding practices that can help—or hinder—horses with four common diseases.

1. Gastric Ulcers

For decades scientists have known that stomach ulceration is prevalent in horses of all disciplines (McClure et al., 1999). Racehorses top that list, with up to 80-100% of those actively racing having gastric ulcers (Sykes et al., 2015). Even pleasure horses get ulcers—as many as 40-60% are affected. Luckily, we can adjust the diet to help.

What to feed

Free-choice forage: Unlike humans, horses continuously secrete digestive enzymes and acidic juices in the stomach, including hydrochloric acid—a compound corrosive to eyes, skin, and mucous membranes. Horses have evolved to consume small amounts of fiber-based feeds around the clock, justifying this constant gastric fluid production. Offering free-choice forage helps prevent ulcers because fiber helps buffer the acidity. Otherwise, in the absence of feedstuffs to digest, gastric juices have nothing but the stomach lining itself to break down, leaving it inflamed, eroded, and ulcerated.

Alfalfa: This and other legume hays are valuable sources of protein and calcium, making them particularly effective at buffering the stomach from its own acidic contents. Researchers have shown feeding alfalfa can help prevent and manage gastric ulcers (Lybbert, 2007).

Gastroprotective supplements: Choose those backed by science, and offer them judiciously based on your vet's advice.

What to avoid feeding

Lots of concentrates: Feeds high in nonstructural carbohydrates (NSC) increase volatile fatty acid (VFA) production. While VFAs are essential for fermenting fiber in the hindgut (the cecum and large colon), an abundance of VFAs in the foregut damages the stomach's protective mucosal lining, leaving it prone to inflammation and ulceration (Nadeau et al., 2003).

Low-fiber diets: The bulk of the equine diet should be forage; horses consuming < 1% of their body weight in forage daily are at increased risk of gastric ulcers.

Straw: This grain crop byproduct has long been blamed for ulcers when fed in large amounts (Galinelli et al., 2019) or as the only forage source (Luthersson et al., 2009). But in a 2021 study researchers couldn't correlate good-quality wheat straw as 50% of horses' daily forage allowance with ulcer development. This suggests good-quality straw might be a suitable dietary component but should not replace hay or grass as forage sources.

2. Metabolic disorders

These include insulin dysregulation (ID), equine metabolic syndrome (EMS), and the hoof disease laminitis. Obesity is the top cause of metabolic dysregulation, so diet has the single biggest impact on prevention/management.

What to feed

Enough to meet nutritional requirements: Don't starve obese and laminitic horses out of fear that eating will kill them. If you restrict a horse's feed intake too much, you could end up dealing with an array of secondary health problems: gastric ulcers, colic, nutritional deficiencies, weight loss, muscle wasting, and behavioral issues, to name a few.

Low-NSC forage: Prioritize good-quality hay over grass, as fresh grass generally has high sugar levels. Depending on the severity of your horse's metabolic dysregulation, your vet might recommend limiting grass intake or steering clear of it altogether. "If blood insulin concentrations are high, test the hay to ensure NSC levels are low enough that you can safely feed it to your metabolically challenged horse," says Nicholas Frank, DVM, PhD, Dipl. ACVIM, associate dean and professor of large animal internal medicine at Tufts University's Cummings School of Veterinary Medicine, in North Grafton, Massachusetts.

Soaked hay: Soaking hay for 30 minutes (and tossing the water before feeding) reduces its sugar content. This simple practice can be an effective way to reduce NSC intake. "If you soak the hay for longer periods of time (two-plus hours), however, you are likely to leach vitamins and minerals out of the hay," Frank cautions.

Ration balancer instead of concentrates: If your horse doesn't need extra calories from grain, you can complement his forage-based diet and meet his vitamin and mineral requirements by feeding a small amount (about 1-2 pounds daily, depending on body size) of a ration balancer.

Frequent small meals: If he does need concentrates to meet calorie needs, break his rations into small meals (< 1.1 gram/kilogram of body weight per meal) to avoid hyperinsulinemia, or high levels of insulin in the blood (Vervuert et al., 2009).

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Fat for additional calories: Unlike NSC, dietary fat is not associated with an increased risk of developing laminitis. Fat does not contribute to ID or EMS, either.

What to avoid feeding

More calories than necessary: A calorie surplus can lead to obesity and fuels metabolic disorders. Overweight horses should operate at a caloric deficit to shed excess pounds. Consider all dietary components—forage, concentrates, and supplements—when calculating total daily caloric intake.

Lots of concentrates: "The degree to which the diet needs to be managed depends upon the severity of ID and whether blood insulin concentrations decrease when initial management changes are made," says Frank. "The severely affected animal with profound hyperinsulinemia has to be handled carefully, and all feeds must be low in NSC."

Lots of sugar-rich treats: Let's not forget those peppermints—in abundance, they, too, can contribute to ID in at-risk horses.

3. Respiratory problems

Management and medication are the primary ways we manage equine respiratory conditions such as equine asthma, but certain dietary adjustments can also help horses breathe easier.

What to feed

Fresh grass: "One of the advantages of fresh pasture is it generally contains high levels of two important antioxidants: beta-carotene (a vitamin A precursor) and vitamin E, which is known to prevent inflammation," says Laurie Lawrence, PhD, professor of equine science and nutrition at the University of Kentucky, in Lexington.

Soaked or steamed hay: To reduce dust and mold particles that irritate your horse's airway mucosa.

What to avoid feeding

Round bales: Which are notorious for being dusty in the middle.

Hay directly on the ground: Especially in a dirt lot, which increases your horse's inhalation of dirt particles.

Pro-inflammatory ingredients: "Diets that are high in some types of fat may be high in omega-6 fatty acids that are more pro-inflammatory than omega-3 fatty acids," Lawrence says. Cereal grains such as corn and oats contain much higher levels of omega-6 than omega-3, a ratio conducive to inflammation. In a horse with inflamed airways, it's vital to ensure the diet contains more antioxidants than pro-inflammatory agents, even though researchers haven't yet confirmed ideal numbers and ratios, says Lawrence. "If the horse is consuming plenty of fresh grass and receiving concentrates, his antioxidant status is probably good," she says. "However, if hay is his main forage source, adding a ration balancer fortified with trace minerals or a vitamin supplement that provides at 500 to 1,000 IU of vitamin E per day might be beneficial in terms of their antioxidant intake."

4. Dental problems

Horses of any age can have difficulty chewing their food because of sharp, loose, or broken teeth. Here's how to make mealtime easier for them.

What to feed

Soaked grain: It's easier to slurp soup than chomp hard feed.

Processed forage: Like hay cubes/pellets, instead of long-stemmed hay that requires extensive chewing. Soak before feeding.

What to avoid feeding

Dry beet pulp: To avoid choke, soak this highly digestible, easy-to-chew fiber source thoroughly. Choke can affect any horse fed insufficiently soaked beet pulp.

A grain-only diet: Don't skimp on forage because your horse struggles to chew hay. Again, turn to alternative forage sources. Complete feeds can also help horses that have trouble chewing long-stemmed fiber.

Take-Home Message

A holistic approach to disease management includes nutrition. Your veterinarian and nutritionist are well-informed when it comes to formulating a diet that can alleviate—or, at the very least, not aggravate—your horse's particular condition. And for the healthy equid, provide a diet designed for long-term health.

The Horse

FEEDING THE LATE-GESTATION BROODMARE

How to ensure the late-gestation mare is getting enough nutrients to meet both her needs and those of the developing fetus.

As we head into winter, many broodmare owners and managers start thinking about warmer weather and the arrival of a new crop of foals. But before the late nights and early mornings of foal watch ensue, we must consider the dietary needs of those mares and how they change during late gestation. As the adage goes, "She's eating for two."

As the mare progresses into her final "trimester," or the last three to four months of pregnancy, we need to start increasing her nutritional plane. It is during this last phase of pregnancy that we observe the most fetal growth, at approximately 1 pound per day. A mare must consume enough nutrients to meet her needs as well as those of the fetus and, in the latter weeks, to support mammary development. If a mare is due while the temperatures are still cold, she will also have increased nutritional demands for thermoregulation. Nutrient requirements for calories (energy), protein, calcium, and phosphorus will increase.

Body Condition

We should be familiar with the appropriate weight and body condition of our mares. Most feed companies have nutritionists on staff who can visit your farm and assess your mares. Many have a portable scale they can bring along to weigh your mares. They can also assess body condition while weighing to make sure your mares are neither too fat nor too thin. Having the mare in moderate to fleshy condition will give her some fat reserves for foaling and early lactation. Weight gain of 140 to 200 pounds is common.

Forage

We must also ensure our mares receive adequate forage. Forage provides the mare with not only nutrients but also heat when her body ferments/digests it in the hindgut. This process can help the mare maintain core body temperature during colder months. Oftentimes weight loss during winter is due to the horse trying to maintain body temperature. We want our mares to receive at least 1% of their body weight (or about 10 pounds of hay for the average 1,000-pound mare) in good-quality forage per day. The mare might be able to meet her dietary needs with good-quality forage alone, at an amount of 2-3% of body weight, or 20 to 30 pounds of dry forage. As the mare progresses into late gestation, the growing fetus takes up more room in the abdomen, and the mare might not be able to eat enough forage to meet her needs. Adding a concentrate designed for pregnant mares can help. To ensure you are meeting dietary requirements, follow the directions on the feed tag. Feeding less of a concentrate than what is recommended on the tag can lead to nutritional imbalances or deficiencies.

When we are looking at forage types, we want to make sure the hay is of good quality. A mostly grass hay with some legume content, in addition to concentrate feed, will likely meet most of the mare's needs in late gestation. Avoid endophyte-infected tall fescue. Consumption of this forage can cause a variety of complications in the late-gestation mare, including low or no milk production, delayed parturition, retained placenta, and a dysmature foal.

Water

Water intake requirements also increase during late gestation as the mare drinks to meet her needs (about 1 gallon per 100 pounds of body weight) and for fetal development. An average 1,000-pound broodmare needs 10 gallons to meet her water requirements but could need an additional 5 gallons for the fetus. Water intake is especially important when most of the diet is dry feedstuffs, such as hay and grain (as opposed to pasture), to help prevent colic.

In summary, make sure the late-gestation mare is receiving enough nutrients to meet both her needs and the needs of the developing fetus. Monitor energy, protein, calcium, and phosphorus levels in her diet, and ensure she has access to good-quality forage and water.

The Horse

SUBTLE SIGNS OF EQUINE GASTRIC ULCERS

Even subtle behavior changes can signal gastric discomfort or pain in your horse. Here's what you need to notice.

Q: Are there early, subtle signs of gastric ulcers that owners often miss before the classic symptoms appear?

A: Historically, we have considered loss of appetite and unexplained weight loss as the most common signs of gastric ulcers, but our understanding of the diseases has changed a lot over the past few years. Loss of appetite can still be important, especially in individuals at high risk of squamous disease (ulcers in the upper part of the stomach), but now we recognize changes in behavior as the main clinical presentation of ulcers, with 85% of horses that present for gastroscopy having a history of undesirable behavior or behavioral change.

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In considering undesirable behavior or behavioral change, it is important to recognize that such behaviors are not specific to ulcers; they are the horse's language of pain.

This change in awareness has caused a shift in our approach to these cases away from, "The horse must have ulcers," to, "The horse has pain: Where does it come from?" The differentials for pain include not only ulcers but also a broader range of possible causes such as lameness, back pain, or dental disease. We also increasingly recognize pain as a potential driver of ulcers, reinforcing how important it is to look at the whole horse and not just focus on the stomach (a weird thing for the "ulcer guy" to say, right?) so, even when we diagnose ulcers, we'll commonly look at other potential contributors such as concurrent lameness.

The Ridden Horse Pain Ethogram is a great resource for understanding the types of behavior associated with pain. These include overt behaviors such as bucking and rearing, along with a range of subtle behaviors including tail flicking, abnormal head carriage, and excessively pinning the ears. From there, no one knows your horse better than you, and the owner's first perception of subtle changes in behavior is typically the tipoff for the potential presence of pain. This is a great point to engage with your veterinarian and discuss the best path forward for your horse and your circumstances.

Because there are many potential causes of pain, including common ones such as gastric ulcers, low-grade lameness, and poor saddle or bridle fit, it is important to assess the response to treatment before completely attributing the behavior to the gastric ulcer diagnosis. Most horses with behavioral abnormalities will improve with a correct diagnosis and treatment, although some will have residual learned behaviors that require specific intervention. This is especially true of ground-based anticipatory behaviors such as girthiness. If you do not see an improvement in abnormal behavior with treatment, then you might need to reassess the diagnosis and potential causes of pain beyond the stomach with your veterinarian.

Take-Home Message

Subtle behavior changes are a common early warning sign of ulcers, along with other potential causes of pain. When we know our own horses' typical behaviors and the key signs to look for, we can recognize issues early and intervene for the benefit of our horses' well-being. For further reading, the article "Can all behavioral problems be blamed on EGUS?" is an in-depth discussion on the topic of behavior and ulcers.

The Horse

COMMON EQUINE PASTURE FORAGES

Learn characteristics of common cool-season perennial grasses and legumes planted in horse pastures.

Do you know what's growing in your pasture? Are you considering reseeding your pastures and don't know what grasses to choose?

While there are many, many plants that are perfectly fine for horses to graze, it is a good idea to learn to recognize the plants in your pasture. This can help you determine the quality and productivity of your pastures for feeding your horses. Remember, a horse at maintenance or lightly worked can meet its energy and protein needs from high-quality pasture alone (and sometimes exceed their needs!). Therefore, identifying pasture grasses is a step towards better pasture management.

Grasses

The following cool-season perennial grasses are commonly planted in horse pastures. Cool-season means that they grow best in cool conditions (spring and fall), and perennial means they come back year after year.

- Kentucky bluegrass
- Smooth bromegrass
- Tall fescue (note that some varieties are not appropriate for pregnant mares)
- Timothy
- Orchardgrass
- Perennial ryegrass

Penn State Extension created a chart comparing the attributes of each of these forages to help in species selection. A good pasture contains a mixture of several forage species.

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Grass	Seedling vigor	Tolerance to Drought	Tolerance to Wet soils	Tolerance to Low pH[a] soils	Winter survival	Tolerance to frequent harvest	Relative maturity[b]
Kentucky bluegrass	M[c]	L	M	M	H	H	Early
Orchardgrass	H	M	M	M	M	H	Early-medium
Perennial ryegrass	H	L	M	M	L	H	Early-medium
Reed canarygrass	L	H	H	H	H	H	Medium-late
Smooth bromegrass	H	H	M	M	H	L	Medium-late
Tall fescue	H	M	M	H	M	H	Medium-late
Timothy	M	L	L	M	H	L	Late

There are lots of other grasses that grow in horse pastures. You may encounter some summer annuals like crabgrass, foxtail, barnyardgrass, goosegrass, etc. These die off completely in the fall and only regrow through dropped seeds. They can provide nutrition for your horses during the summer, but the lack of living roots through the winter is not good for soil health. It is preferable to cultivate perennial pasture plants.

Legumes

The following plants are perennial legumes. Legumes are higher in protein, energy, and calcium than grasses at a similar maturity.

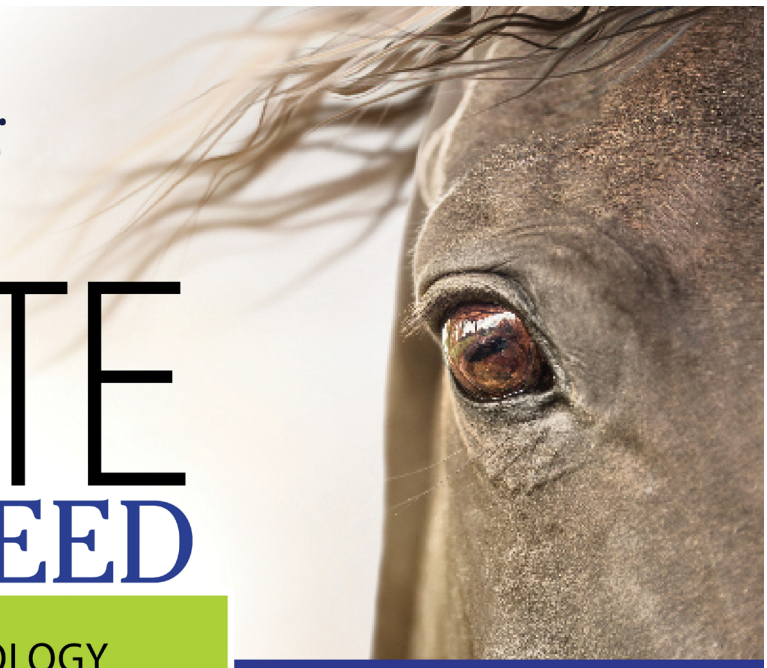
- Red clover
- White clover

Other common pasture legumes include alfalfa and birdsfoot trefoil.

Conclusion

With a little practice, identifying pasture forages can be easy.

Penn State Extension



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EVENTS / CALENDAR

VENDOR DAY

Wednesday, February 25 • 4:00 pm - 7:00 pm

Blue Ridge Community College - Plecker Center
57 College Ln, Weyers Cave, VA 24486
The largest farming brands on site in one location! Book your 2026 items at drastically reduced rates at our annual vendor day! Door prizes, goody bags, snacks, and deals galore!

Scan to view event details

AGRONOMY CUSTOMER APPRECIATION DAY

Friday, February 6 • 11 am - 2 pm
Augusta Expo - Building 2
277 Expo Rd | Fishersville, VA 22939
Additional information: RSVP to Staci Alger at (540) 885-1265 x 253 or SAlger@AugustaCoop.com

EQUINE CUSTOMER APPRECIATION

Wednesday, March 11 • 5:30 pm - 7:30 pm
Augusta Co-op - Staunton Store
- Feed Deals ($10 off per bag limit 5)
- Animal Health, Clothing, Seed, Hardware Deals & More!