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### **UNDERSTANDING CONTAGIOUS EQUINE METRITIS**

# Find out about how CEM is spread between horses, the most recent outbreaks, and biosecurity measures to prevent outbreaks in breeding horses and geldings.

Contagious equine metritis (CEM) is a highly contagious venereal disease affecting horses, with potentially severe implications for breeding operations. Caused by the bacterium Taylorella equigenitalis, CEM primarily affects mares, causing vaginal discharge, temporary infertility, and, in some cases, long-term carrier states. Stallions, while asymptomatic, can be silent carriers capable of spreading the disease through natural breeding or artificial insemination.

#### **CEM Transmission and Risks in Horses**

- Contagious equine metritis spreads in three primary ways:
  - Between a mare and stallion during live-cover breeding.
  - From stallion to mare via contaminated semen used in artificial insemination.
  - From stallion to stallion through shared breeding equipment.

Mares can sometimes clear the infection on their own, but many become chronic carriers, maintaining the bacteria in their reproductive tract and serving as a long-term source of transmission. Stallions, unless diagnosed and treated, can transmit the bacteria indefinitely.

#### CEM Outbreaks in the U.S.

Although the United States has been considered CEM-free since the mid-1980s, multiple outbreaks have occurred. Six reported incidents have emerged since 2006, with three classified as full-scale outbreaks. The most significant outbreak, spanning 2008 to 2010, involved 23 stallions and five mares. More than 1,000 exposed horses across 48 states were tested, with the infection traced to a stallion imported from a CEM-affected country in 2000.

Between May 2024 and March 2025, the USDA confirmed 52 cases of CEM in an outbreak associated with transmission at a single farm in Florida. The outbreak was first identified when a pony stallion on the farm infected a pony mare that subsequently showed clinical signs of CEM and tested positive for T. equigenitalis. These two animals and one other pony stallion were the only breeding animals involved in the case—the other 49 were geldings who acquired the infection through sheath-cleaning practices on the index farm. None of the geldings arrived at the farm as stallions; current epidemiology (the study of disease, health, and their determinants in populations) indicates one must have arrived infected. In addition to the 52 confirmed cases, officials said at least another 140 were potentially exposed. This is the first finding of extensive gelding-to-gelding spread of T. equigenitalis through inadequate biosecurity during sheath-cleaning practices in the U.S.

#### **Prevention and Biosecurity Measures**

To mitigate CEM risks veterinarians recommend the following precautions for breeding operations:

- Adhering to the American Association of Equine Practitioners' biosecurity guidelines for venereal disease prevention.
- Regularly testing active breeding stallions before the breeding season using direct swab culture for T. equigenitalis. Testing requires collecting swab samples from multiple sites on a stallion's genitalia and submitting them to a CEM-approved laboratory.
- Even a single negative test provides valuable insight into a stallion's CEM status. However, veterinarians encourage multiple tests to ensure accuracy and prevent undetected carriers from spreading the disease.

To reduce the risk of CEM spread to geldings, experts recommend:

- Wear disposable gloves and change gloves between geldings.
- Use a disposable bucket liner in the wash bucket and paper towels or disposable rags that will not be shared between geldings.
- Avoid using a hose that can become contaminated during handling.

#### The Stakes for Stallion Owners

The potential financial and horse-health consequences of a CEM outbreak are significant. Beyond the health risks to breeding stock, outbreaks can lead to quarantine measures, disruptions in breeding schedules, increased costs to treat outbreaks, and disruption in the international movement of U.S. horses and semen/embryos.

Ensuring compliance with testing and biosecurity measures is not just about protecting individual breeding programs—it is a collective effort to safeguard the equine industry. Stallion owners, veterinarians, and breeding facility managers play a vital role in preventing future outbreaks and maintaining the country's CEM-free status.

The Horse

### GASTRIC HEALTH: THE KEY TO YOUR HORSE'S BEST SELF

Gastric discomfort may negatively affect a horse's health, attitude and performance. Fortunately, recognizing signs of discomfort and providing proper management can help support your horse's gastric health.

#### What causes gastric discomfort in horses?

As grazing animals, horses are made to steadily eat a forage-based diet throughout the course of an entire day. This constant slow-feed intake naturally regulates the acidity of the horse's stomach contents. Additionally, the saliva a horse generates through chewing naturally buffers the acid.

Modern horse-keeping practices often limit feeding to two or three daily meals. Unless a horse is turned out to graze or barn staff frequently refills the hay supply, the horse doesn't receive more hay until the next feeding.

Even though the horse isn't eating, his stomach still produces acid. Without chewing, there isn't a steady source of saliva and natural enzymes to help protect the stomach. An overabundance of acid and a lack of saliva means the stomach's natural pH level drops too. These factors create the trifecta for gastric discomfort.

Stress can also put horses at a greater risk for gastric discomfort. Rigorous exercise, long-distance travel, a new environment and confinement can contribute to lower gastric pH levels.

#### What are the signs of gastric discomfort in horses?

Gastric discomfort can present differently in individual horses. Common signs of equine gastric discomfort include:

- Poor appetite
- · Picky eating
- Poor body condition
- Weight loss
- Chronic diarrhea
- Poor coat condition
- Teeth grinding (bruxism)
- Changes in behavior, including aggression, nervous behaviors, side biting and "girthiness"
- Acute or recurring colic
- Poor performance

#### How to manage a horse with gastric discomfort

Research has shown continuous acid production and low gastric pH can contribute to the development of gastric ulcers and Equine Gastric Ulcer Syndrome (EGUS)1. Fortunately, there are things you can do to minimize your horse's risk for developing EGUS and manage a horse with gastric discomfort, including the addition of a probiotic supplement.

# **1.** Recognize factors or events known to cause gastric discomfort in horses.

#### Some factors include:

- Environment stressors
- Lack of turnout
- Injury
- Fasting
- High starch diets
- Inadequate forage

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### Augusta Co-op Solution Purina, Systemiq Probiotic, 2 Ibs.

For over a decade, Purina has been studying the equine microbiome to help horse owners unlock new insights into their horse's health. We looked beyond the usual expectations of what a probiotic can do. The unique and patented probiotic technology in Systemiq<sup>™</sup> supplement survives when other bacteria strains don't, remaining live and acti



strains don't, remaining live and active through manufacturing and the horse's gastric environment. It has a systemic effect in your horse, helping him to overcome challenges such as exercise or occasional gastrointestinal stress.

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- Prolonged use of NSAIDs
- Travel
- · Elevated exercise, training, showing or racing

#### 2. Recognize the signs of gastric discomfort in horses.

Common signs are listed above, but individual horses present discomfort in different ways. Become familiar with your horse's normal behavior to help determine if behavior changes are a sign of discomfort.

#### 3. When to seek help from your veterinarian.

Work with your veterinarian for diagnosis and treatment if you recognize risk factors or symptoms. Gastroscopy is the only way to confirm the presence of gastric ulcers, and prescription acid suppression therapy may be required to heal ulcerations. If treatment is necessary, work with your veterinarian to determine the best medication for your horse.

#### 4. Manage gastric discomfort.

Develop a management program to minimize the factors contributing to gastric discomfort. Provide ample turnout and continuous access to fresh water. Anticipate stressful events, such as traveling or showing, and use Purina® Outlast® Gastric Supplement to support and maintain gastric health and proper pH during those times.

#### 5. Horse nutrition.

Choosing the right feed products and implementing good feeding management practices are vital in managing your horse's gastric health.

- Never allow more than six hours of fasting and provide frequent access to good quality hay and/or pasture.
- · Incorporate alfalfa into your horse's diet.
- Feed higher fat and fiber concentrates and avoid high starch and sugar feeds. The Purina horse feed lineup includes many appropriate options.
- Support optimal gastric pH by feeding Purina® Outlast® Gastric Support Supplement along with concentrate meals. In addition, feed Outlast®1 supplement or Outlast® treats as a snack before you ride, trailer or show to maximize gastric support during these activities.
- As a convenient way to provide gastric support to a variety of horses at every meal, there is now a full serving of Outlast® supplement in each of these feeds:
- The full lineup of products in the Strategy®, Omolene®, and Ultium® families
- Equine Senior® and Equine Senior® Active
- Impact® Professional Performance
- Omega Match® Ration Balancer
- EquiTub® with Clarifly®

By recognizing the signs associated with gastric discomfort and adjusting management and dietary practices, you can help support your horse's gastric health. Learn more about your horse's gastric health and Outlast® supplement.

#### Purina Mills

### **CREATING THE RIGHT DIET FOR YOUR HORSE**

#### Your horse's nutritional requirements depend on his life stage and individual needs.

All horses need the same essential nutrients—water for cellular, tissue, and organ function, carbohydrates and fats to fuel body functions, protein to build and repair tissues, and certain vitamins and minerals to promote and maintain normal physiological function. Feeding an appropriate diet, however, is not just a matter of tossing them some hay, grain, and supplements. Creating a diet for your horse involves a targeted plan that allows him to use nutrients more efficiently.

To figure out what your horse needs, realize that horses are grazers designed to eat little and often, says Amy Parker, MS, equine nutritionist and technical services manager at McCauley's, in Versailles, Kentucky. Their natural diet is mainly grass, which has a high roughage content. So, their diet as domesticated animals should be predominantly fiber-based—whether it's grass, hay, haylage, a hay replacement, or a combination thereof—to mimic their natural feeding pattern.

Parker says the right diet for your horse must reflect his individual needs, taking into consideration factors such as age, weight, body type and condition, health, level of work, and physiological state (e.g., growing, pregnant, lactating). Time of year and weather conditions are also important to consider when formulating the appropriate diet. For example, if the horse gets most of his nutrition by grazing good-quality pasture, then he needs alternative feed sources (i.e., hay) when grass isn't available. "All of this information provides the foundation to develop the whole diet—forage and feed components," says Parker.

The National Research Council's Nutrient Requirements of Horses is the standard guide for feeding horses. Although this text provides much more information than the average horse owner might need, it also offers basic guidelines for energy, protein, and some macromineral (i.e., calcium, phosphorus) amounts based on mature horse body weight. "Once we have met these needs, then the rest is usually okay," says Shannon Pratt-Phillips, PhD, professor of equine nutrition and physiology at North Carolina State University, in Raleigh.

#### From Foal to Juvenile

Horses have different nutritional needs depending on their stage of physical maturity. In general, provided a lactating mare is in good body condition and on a balanced diet, we don't have to worry about feeding the foal because the mare's milk includes all the nutrients he needs, says Parker.

Rather, we consider and select the proper diet when the foal transitions to a weanling and begins consuming solid feed. Young, growing horses need extra energy, protein, and the correct amount of minerals, such as calcium and phosphorus for proper bone and tissue development.

Digestible energy intake greatly influences a young horse's growth rate, says Pratt-Phillips. In general, the more energy fed, the faster the growth. She says you can adjust diets to accelerate growth in horses earmarked for sale or competition as well as slow growth rates for horses intended to be marketed at a later stage of maturity.

Horses 4 to 6 months of age are defined as weanlings, whereas those 12 to 18 months of age are considered yearlings. Depending on the average daily weight gain you desire for your growing horse, first choose the appropriate forage type to feed. We know pasture alone typically doesn't meet a growing horse's nutrient needs, says Laurie Lawrence, PhD, professor of equine nutrition at the University of Kentucky (UK), in Lexington. Further, season affects a pasture's nutrient content. For the growing season of most legume/grass pastures, the energy and protein content is highest in spring and fall and lowest during the summer.

Lawrence says choosing a hay to match the horse's needs is a good way to ensure adequate nutrition from the forage. Hay has the highest nutrient value (composition) when harvested in its immature state of growth. Legume hay (alfalfa or clover) is higher in digestible energy, protein, and calcium than grass hay (e.g., timothy or orchardgrass). So, if you are selecting hay, look for the stage of maturity to be between pre-bloom and mid-bloom (prior to the plant flowering) for legumes and pre-head (prior to the plant producing a seed head) for grasses.

Growing horses' hay consumption varies depending on the hay quality (related to the hay's maturity at the time of harvest) but usually ranges from 8 to 15 pounds per day for weanlings and 15 to 25 pounds per day for yearlings.

Because feeding growing horses is a balancing act where you don't want to provide excess or inadequate dietary energy or protein, Lawrence suggests keeping the diet proportions at 30% forage to 70% concentrate for weanlings and between 55/45 and 50/50 forage to concentrate for yearlings.

#### Average Adult Horses

Mature idle horses can do well on good-quality all-forage (pasture or hay) diets with vitamin and mineral support in the form of a ration balancer, says Parker.

Base forage selection on the type necessary to meet nutrient requirements. For a mature idle horse, this is typically an early to late-head grass hay.

#### Senior Considerations

Aged or senior horses (18 years or greater) have additional dietary considerations. They are less able to process and absorb nutrients from feed and have a less efficient microbial population in the hindgut, says Pratt-Phillips. These horses need high-quality pasture and hay with at least a 60% legume content. Senior horses might also develop metabolic problems (such as pituitary pars intermedia dysfunction) that require a specialized diet low in soluble carbohydrates, including warm-season hays that are naturally low in insoluble sugars, such as teff or some species of Bermudagrass.

#### Pregnant and Lactating Mares

#### Augusta Co-op Solution **Triple Crown Equine**, 30% **Ration Balancer Pellets. 50 lb.**

While originally formulated for growing horses and broodmares. Triple Crown Balancer is a highly fortified, low sugar and starch pelleted supplement, ideal for easy keepers and horses with metabolic disease. It can be used to balance pasture and/or hay.



30% Crude Protein 3% Crude Fat

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5% Crude Fiber

Broodmares' digestible energy, protein, and macromineral (primarily calcium and phosphorus) requirements jump during late pregnancy (last trimester) and lactation (foaling to three months). For these horses to maintain a healthy body condition, Parker recommends selecting feed that complements the forage to meet the nutrient requirements. For instance, if you feed your pregnant or lactating mare legume/grass hay, add a concentrate feed with moderate protein (12-14%) that is fortified to meet her vitamin and mineral requirements. If you feed a straight grass hay, you'll need to provide a higher-protein feed. Lawrence recommends offering early to mid-bloom stage legume hays and prehead to early-head stage grass hays. In general, pregnant mares in late gestation and early lactation consume 70-80% and 50-60%, respectively, of their diet in forage.

#### Calculating Correct Amounts

Nutritionists generally base their feed recommendations on amounts per kilogram or pound of mature body weight. So your horse's weight and body condition are essential pieces of information. A livestock scale will tell you the precise body weight of your horse, allowing you to make better decisions about how much feed to provide. You can also make body weight estimations using a weight tape or the body weight formulation

Body weight (lb) = heart girth (in) $2 \times body length (in)/330$ 

Parker also recommends using the Henneke body condition scoring system on your horse. This system allows the user to evaluate the amount of fat deposition in various body regions, which can guide how much to feed.

Work increases digestible energy needs. The increase ranges from 25 to 50% above maintenance levels with horses in light to moderate work (working five hours or less per week) to 100% above maintenance in horses in heavy work (e.g., upper-level eventing, racing, endurance). Environmental conditions, such as heat and humidity, also affect horses' dietary requirements due to replacement losses of minerals in sweat.

#### **Choosing Forage Types**

You can add forage besides pasture or baled hay to your horse's diet. These include hay cubes, pelleted hay, chopped hay, dehydrated hay, and haylage. Each poses advantages and some disadvantages, says Parker, but all must be fed based on the product's weight.

A variety of forage mixtures are available as hay cubes, which are usually 2-by- 2 inches, and can be fed as a substitute for long-stem hay. Horses that waste a portion of their long-stem hay might benefit from consuming a cubed hay, says Robert Coleman, PhD, associate professor at UK. Cubed hay is cut uniformly, thus eliminating sorting issues. Another benefit of hay cubes is you can weigh and store them easily. Cubes are usually made from forage that was cut at an early stage of maturity, giving them a guaranteed minimum nutrient content, says Coleman.

Hay pellets are typically 3/16 to 3/4 inch in diameter. They, too, are easily weighed and stored and can be fed as a 100% alternative to long-stem hay with a guaranteed minimum nutrient content. Because hay made into pellets has been ground to smaller particle sizes than hay intended for cubes, horses might consume them faster.

Whether you choose to feed hay cubes or hay pellets, Coleman recommends soaking them in water to soften them for senior horses as well as reduce possible incidence of choke from eating them in their dried state.

Chopped hay is usually chopped to a length of about 1 inch, and you can purchase it bagged. Because of its shorter stem length, this form of hay is easier to chew and might be a good choice for senior horses with poor dentition or in a total mixed ration for horses consuming a complete feed.

Dehydrated hay is a chopped hay product that is dehydrated and compressed into a block. The advantage dehydrated hay offers over regular sun-cured hay is it retains its maximum nutrient value with storage. As with the cubes and pellets, this product comes with a guaranteed minimum nutrient content.

Another excellent forage option for horses is haylage, because it provides a high-quality product that is dust-free. Haylage has a moisture content of 20-30% compared to dry hay's approximately 14% moisture content. In Europe, feeding haylage is common practice, says Coleman. "It looks like regular long-stem hay and has a sweet smell to it," he says.

stem hay and has a sweet smell to it," he says. Because of the fermentation process involved in making haylage (which increases the level of soluble carbohydrates), this type of forage might not be appropriate for horses with metabolic issues or prone to laminitis. It's also at risk of botulism contamination if the packaging is not airtight, so ensure horses eating haylage receive a botulism vaccine.

#### **Concentrate Decisions**

The final part of creating a diet for your horse is the concentrate. Concentrate, for all intents and purposes, is the nonforage portion of the ration (grains, protein supplements, oils/fats, molasses). Not all horses need a concentrate in their diets. If the horse is at maintenance, for instance, he likely needs only a vitamin/ mineral supplement (ration balancer), says Parker. A concentrate might be an appropriate addition to the diets of horses that cannot get enough nutritional support to maintain optimum condition from hay alone or cannot consume enough hay to maintain optimum condition (growing horses, mares in late gestation or early lactation, horses in intense work, and aged horses).

Parker stresses that the amount of concentrate you feed should be no more than that necessary to provide the horses' required energy and other nutrients. If your horse needs a concentrate to stay at a healthy weight and body condition, then each feeding amount should provide no more than 0.5% of his body weight.

#### **Final Thoughts**

Creating the right diet for your horse involves considering many factors, including the science behind what we feed and how current research and knowledge can help us tailor the horse's diet to meet his specific needs. Work with your veterinarian or an equine nutritionist to ensure your horse is getting the right nutrients in the appropriate amounts for his lifestyle.

The Horse









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