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# Slow Feeder Safety

How to use slow-feed haynets and slow feeders without endangering your horse's limbs, hooves, and teeth

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If you're using a slow feeder, it's probably because you want the best for your horse. You know horses in the wild graze and browse up to 16 hours a day, and you want to offer a way for your horse to have a similar feeding regimen in his domestic environment. Good for you! And all the better for your horse.

Occasionally, though, slow feeders create health or welfare issues of their own. It's important to keep the risks in mind (and mitigate them) as you choose, monitor, and maintain your slow feeding equipment.

We've gone to the experts to find out

what you need to know about haynet and slow feeder safety.

## Five Safety Risks To Consider

Slow feeders make food less easily accessible, thereby prolonging feeding times, says Marie Roig-Pons, a PhD candidate at the Agroscope national research center at the Swiss National Stud, in Avenches. They improve health and welfare and can even cut down on horse-to-horse aggression, she says, citing research from the University of Rennes, in France. Those are key messages

the Swiss National Stud sends to owners in Switzerland, where slow feeders are popular.

Surprisingly, however, almost no scientific studies investigate slow feeder safety, says Roig-Pons. Eager to fill that gap, she's taken on a vast, ongoing project evaluating the advantages and disadvantages of various kinds of feeders—with 1,300 owners already providing detailed information about their experiences. While so far it looks like the benefits “greatly outweigh” the risks, it's still important to consider those risks, she says.





In general, horseshoes and haynets don't go together. Plastic systems with holes, which are available as tubs, cylinders, wall feeders, and more, are safer for shod horses. Also, if you suspend your feeders, don't hang them so low that a horse could trap a leg in them.

Practically speaking, nothing we use around horses can be entirely risk-free, says Bob Peters, DVM, of McKinlay and Peters Equine Hospital, in Newman Lake, Washington, where staff equips every hospital stall with a slow feeder. "There can be issues with any of this stuff, obviously," he says. However, he's found that some feeders are safer and more suitable than others, especially in certain situations. Here are the risks, how to attenuate them, and what to do when they create problems for your horse.

## Risk 1: Teeth and Gum Damage

Peters says when his clients first started using slow feeders, horses would frequently wear down their teeth on metal grates or hook them on haynet cords. "We saw a lot of damage," he says, referring to a telltale wearing of the enamel, mainly on the upper incisors. "When I see that particular wear pattern, the first question I ask is if they're eating from a metal grate slow feeder."

Minor enamel wear repairs itself over several years because horse teeth grow down from the gum constantly throughout their

lives, or at least until they're in their early to mid-20s. But if the damage reaches the pulp horn, and you and your veterinarian don't take steps to correct it within about an hour, the tooth dies. Unfortunately, most owners don't realize anything's wrong. "Generally, I find out about it six to eight months later during a routine dental exam, and by then the whole tooth, even the root, is rotted, and it has to be extracted," Peters says.

Meanwhile, slow feeder haynet cords can cause issues if they hook on loose, isolated, or decaying teeth, he says. That's particularly true in younger horses with loose baby teeth and in older horses with age-related dental disease. Sometimes these cords are "just helping nature along," says Peters, by ripping out a tooth the horse was about to lose anyway. But he's also seen foals get deep lacerations across the gums of the upper arcade and dislodge baby teeth, requiring surgical repair with wires and threatening irreparable damage to the permanent teeth beneath.

Peters recommends only using cord-based haynets with horses ages 5 (when the incisors have come in) to 20 and to get

a dental checkup beforehand. "The safest and least damaging to the teeth are the nets that have 1- to 2-inch openings made from 1-inch-wide nylon straps," he says.

Horse teeth also do well with plastic tub-form feeders that have a dropping tray with holes through which the horse eats, he adds. His clinic uses these feeders as well as nylon strap nets for their hospital patients. As for metal grates, it's best to avoid them altogether, he says.

For owners who've already dealt with these problems, the decision to switch feeder styles is an easy one. "When they see the amount of damage, they don't argue," Peters says.

## Risk 2: Trapped Shoes or Feet

Most slow feeders take hoof size into consideration, our sources say. So there's little chance a horse gets a foot caught in a hole. But owners should exercise common sense with other feeder parts, including not letting a haynet's tie cord drag the ground where it could loop around a body part, Peters says. Also, if you suspend your feeders, don't



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Horses that spend large amounts of time in inappropriate head and neck positions while eating could be at risk of developing neck and back problems.

hang them so low that a horse could trap a leg or even his head in them.

More frequently, the problem is related to shoes, he says. “I’ve had clients whose horse pawed at a net and got a shoe caught, and it ripped the shoe off,” he says. Although that doesn’t usually lead to significant injuries, it’s “certainly something to be careful about.”

In general, horseshoes and haynets don’t go together—or only if the nets are securely tied up high, says Roig-Pons. Plastic systems with holes, which are available as tubs, cylinders, wall feeders, and more, are safer for shod horses.

### Risk 3: Frustration and Anxiety

An often-overlooked risk with slow feeders is the frustration they can cause, says Martine Hausberger, PhD, director of the Laboratory of Animal and Human Ethology (the science of animal behavior), a branch of the French national research center and the University of Rennes.

Slow feeders should reduce the speed of horses’ intake, but not to the point it’s a detriment to mental health, she says. Frustration creates negative emotions and

threatens welfare. “The idea is the horses should be spending more time eating their food, not more time fighting to get it out,” says Hausberger.

When her team compared two slow feeders—a hanging hay bag and a plastic feeder—they observed frustration behavior toward the bag, with some horses biting, pulling, and pushing it. Horses also periodically showed stereotypies such as cribbing. The feeder, a plastic triangular trough containing a descending plastic plate with holes in it, however, led to no signs of frustration. On the contrary, horses appeared relaxed and calm, and they were friendlier toward people than some were when fed with the hay bag.

In some cases frustrated horses might give up and stop eating altogether, adds Peters. Frustration is often due to openings that are too small, especially for the length

### An Overview of Slow Feeder Types

What started as a simple haynet concept has exploded over the past decade into a wide variety of slow feeder systems. Benefiting from experience and a few scientific studies, manufacturers—and some resourceful do-it-yourselfers—have developed new designs that give horse owners multiple slow feeding options. (In fact, feeder technology has progressed so much that some welfare scientists don’t consider nets to be slow feeders anymore, specifically because of the safety risks they can pose compared to more modern developments.)

Most slow feeders, including nets, either hang suspended or fixed to a wall or cover a box or tub placed on the ground. Some nets and bags can be used independently on the ground, but owners should check with manufacturers first to be sure it’s safe to do so, our sources say. We’ve broadly categorized feeders according to style and materials:

- **Nets:** Classic haynets are made of knotted cotton or synthetic cords in a design that expands when it’s filled with hay. Newer designs include thick nylon webbing instead of cords. The netting mesh size usually varies from about 1 to 2 inches. They close with a drawstring.
- **Bags:** An adaptation of haynets, hay bags are made with canvas or other heavy-duty fabric, but they have openings covered with netting or nylon straps, with similar mesh sizes as the haynets. Some webbed designs are two-sided, without a fabric backing. Slow-feeder bags close with snaps, zippers, or Velcro.
- **Metal grates:** The heavier weight of metal makes grates practical as a cover that naturally drops with gravity as hay depletes. The space between the iron or steel bars usually runs around 3 or 4 inches. In some designs the metal might be painted or coated with a synthetic material.
- **Polyurethane sheet with holes:** Colorful plastic designs have gained popularity as practical and safe solutions. Round openings are about 2 to 4 inches in diameter. The material is also used for rolling ball designs.

of hay cuts, says Hausberger. If the ends aren’t emerging, the horse can’t grab them. “They like to pull first and then chew, instead of having to take little chopping bites,” she says. Suspended nets and bags that swing around can also cause frustration because horses cannot get sufficient leverage to retrieve pieces of hay. Owners should hang these against a fence or wall when possible.

Though she has not observed it, Roig-Pons believes that feeder shape could also lead to anxiety in some horses. In particular, she wonders about the deep design of some tub-type feeders. “From an ethological view these feeders don’t seem very coherent with a horse’s psyche, because they’re a species that’s always observing what’s happening around them,” she says. “So dipping their heads into a place where they can’t see their surroundings could potentially induce anxiety.”

Training can help with frustration, says





Plastic designs with round 2- to 4-inch openings have gained popularity as practical and safe feeder solutions.



Peters. Horses should always be trained and monitored with a new feeder, starting with only about half their ration in the new system and the other half the way they'd been eating before (on the ground, for example). "They'll finish the first half and then start playing with the rest of it, without being overly hungry," he says.

Learning should be quick, though, to ensure good welfare. "If they can't get the hay out of the holes, what can you expect them to learn?" Roig-Pons says. "Horses need to eat pretty much all the time. If the feeding system doesn't let them fill their stomachs as they'd like, they'll never get used to it because they've got gastric acid secretions ... and they're in constant discomfort. If the (feeder) isn't providing a continuous flow, it's not good enough."

## Risk 4: Orthopedic Issues

Not all slow feeders encourage horses to eat with their heads down, like they do at pasture. Hausberger says this creates significant issues for their physical health and welfare. "Anything that puts the horse's neck in a different position than what it should be in risks consequences for the vertebral column," she explains. "If they're spending

large amounts of time in inappropriate head and neck positions while eating, this could lead to major back and neck problems."

Roig-Pons had the same concerns when she saw some of the Swiss National Stud stallions "twisting and spiraling their heads and necks all over the place" on video as part of their slow feeder safety study, especially when the horses ate from troughlike feeders covered with a grate.

Their equine orthopedic consultants were less concerned. "They said the horses never seemed to stay in one position long enough to really hurt them, from what they could tell," Roig-Pons says. However, they only watched 15-minute videos, which might not provide sufficient information, she adds.

She also notes that it's necessary to consider that in nature horses are constantly moving and shifting their weight while grazing, and sometimes they eat from bushes and trees. More research is needed to determine how a head-down position without movement—which can come from a feeder as well as a pile of hay on the ground—could affect musculoskeletal health, she says.

"On average, 77% of domestic horses have problems of the vertebral column," says Hausberger. "And studies show that

in natural conditions horses spend 60% of their time eating with the head down. Feeding position is certainly a risk to consider."

## Risk 5: Injuries From Damaged or Inappropriate Material

Most professional slow feeder manufacturers have gained knowledge from experience and develop products using materials "intended for horses," says Roig-Pons. However, it's worth considering basic material quality, especially when trying to cut costs or build feeders at home. "We saw that some owners were using an eight-euro (\$10) net from a discount shop, meant for covering cargo in an open trailer, to avoid paying 150 euros (\$180) for a commercial product," she says. "And these people were later complaining about issues with their horses' teeth and gums. So materials do matter. We just don't know all the ways they do yet, nor which ones are best."

Materials, regardless of quality, can also wear down with age or break if they get kicked or stepped on. "Some kinds of plastic break more easily than others, and they can leave sharp sides and points that can injure the horses," says Roig-Pons.

Nets and straps can wear away or break over time—and parts might even end up in the digestive tract, says Peters. "I've taken things out (surgically) from horses and thought, how did he even swallow that?" he says. Short, frayed bits raise little concern. "But a 4-inch-square piece of netting? That could be a problem."

For safety's sake, owners should check on feeders like they would any other horse equipment. "You can't just keep using them until they're frayed and coming apart," he says. "So, maintenance!"

## Take-Home Message

Slow feeders can improve horses' health and welfare by slowing their eating. But not all designs work with all horses, and some materials carry safety risks. To ensure your horses get the most out of their slow feeders with as little risk as possible, keep an eye on their behavior and dental health, keep dangling parts out of reach of feet and shoes, and make sure they change positions regularly while eating. **SM**