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# THE BENEFITS OF GRAZING HORSES AT NIGHT

GRAZING HORSES AT NIGHT CAN HELP KEEP THEM AT A HEALTHY WEIGHT AND REDUCE THEIR SUGAR INTAKE.

## GRAZING YOUR HORSES AT NIGHT CAN BE A TOOL TO BEAT THE HEAT, BUGS, AND WEIGHT GAIN.

Night turnout is a much-welcomed relief from the pestering flies and grueling heat of hot summer days. It's also a great way to have horses on grass for extended periods while reducing the risk of them becoming overweight.

"Night grazing is a tool for managing horses on pasture to keep horses from becoming overweight," said Katy Watts, plant biologist, former agricultural researcher, and owner of Safergrass.org, a business focused on managing sugars in grasses. "The natural cycle of pasture plants is such that when the sun goes down the plants stop photosynthesizing and producing sugar. As the night progresses, (the plants) use the sugars (they produced during the day) to grow." A metabolically normal horse—one not insulin resistant, Cushingoid (has pituitary pars intermedia dysfunction, or PPID), or laminitic—that can handle eight hours of pasture during the day but is starting to gain too much weight will benefit from nighttime turnout.

"I am a firm believer that there are a lot of good things in pasture that you just can't get in hay," said Watts. "And I have always been an advocate of allowing horses as much access to pasture as possible as long as they don't get fat. It's not healthy to be fat."

These guidelines are for North American summers where sugars in the plant's diurnal (daily) cycle are lowest at 3 a.m. and start rising again after sunrise. At extreme latitudes, as would be the case in places like Scotland or Alaska, the diurnal rhythm is compressed, and long daylight hours means plants are producing sugars well into the night.

Another low-sugar alternative to night grazing is turning horses out on pasture in the early morning, around 6 a.m., and bringing them in around 10 a.m. when plant production of sugar becomes high again. "This is especially useful if you are a morning person," said Watts. "It all depends on when people go to work and their sleep cycle. If you are an early riser, it might work better getting up early and just putting them out for a few hours and then again (putting them out) in the evening."

Once overnight temperatures drop below 40 degrees, be wary of night grazing. "When we get a hard frost that (summer growing) cycle is over, and sugar levels will remain high through the night," said Watts. The end of summer signals a hard stop to night grazing for most horses, especially for those with metabolic conditions such as PPID or laminitis.

Because PPID horses often have insulin regulation issues, reducing sugar in these individuals' diets is usually beneficial. Along with your veterinarian's advice, limited early morning grazing might be the safest choice for them. It could be a way to allow them a long turnout time without compromising their safety and to keep them from needing a drylot.



## TIPS FOR GRAZING HORSES AT NIGHT

If you have horses that might benefit from night grazing, check out these do's and don'ts:

### DO'S

- Secure perimeter fencing and be sure all gates are latched properly.
- Have plenty of fresh water available for horses in their grazing area. Studies with other livestock show animals graze more and are less likely to test fencing when they have both food and water.
- If mosquitoes or nighttime insects are a problem, use fly repellent before putting horses out.
- Implement a rotational grazing program to avoid overgrazing. The greatest amount of sugar in short grass plants is in the bottom 3 inches, or the seedhead in tall grass. For more help designing a rotational grazing system for your property, contact your local conservation district, extension office, or the Natural Resources Conservation Service.
- Treat each horse as an individual. Just like with people, one horse's dietary needs might not be the same as another's.
- Learn what your horse's healthy weight should be. Seek help from a veterinarian, equine nutritionist, forage agronomist, and/or professional experienced in this area, especially if you have an at-risk individual metabolically (PPID, laminitis-prone, etc.). Make any changes in diet gradually to give the horse's gut time to adjust.

### DON'TS

- Don't overgraze pastures. The greatest amount of sugar in a grass plant is concentrated in the bottom 3 inches or the seedheads. Overgrazing kills grass and encourages weeds that might be higher in sugar than the grass.
- Don't graze during cool weather (40 degrees and lower), especially if there is frost. Pasture plants store carbohydrates at very high levels during these times, making them extremely high in sugars and dangerous to graze.
- Don't be fooled by the late summer brown grass—brown, yellow, or dried grasses can be very high in sugars. Pastures are healthiest for horses (lowest in sugars) during the active growing season when plants are green and not stressed. Therefore, graze horses during the active growing seasons (spring and summer), and limit grazing of dried-out pastures.

### TAKE-HOME MESSAGE

If your horse is metabolic or at risk, research this area further, and seek professional help. Talk with your veterinarian about specific feeding and grazing recommendations for your horse.

"We all have to be creative," said Watts. "We need to do what fits best for our needs, our horses' needs, and the best use of the pasture."

*The Horse*

## FEEDING NONWORKING HORSES

HERE ARE SOME TIPS FOR PROMOTING NONWORKING HORSES' OPTIMAL HEALTH (AND PREVENTING POTENTIAL PROBLEMS) WITH NUTRITION.

### DO'S AND DON'TS TO MEET THE DIETARY NEEDS OF RETIREES AND PASTURE PETS

For creatures of any species, proper diet and exercise are key to maintaining health and proper body weight and condition. But when a horse isn't getting regular exercise, the onus falls on diet alone. And, of course, this presents its own set of challenges.

A horse might be idle for a variety of reasons. He could be a senior mount who has served his time in work and is enjoying a well-deserved retirement. She could be a young prospect who is getting time to grow and mature before starting in training. Or he could be a mature campaigner with a performance-limiting injury who's embarked on a new career as an equine babysitter.

No matter the reason for horses' inactivity, and even if they're not being managed as intensively as is typical, owners must remain attentive to these animals' diets. In this article you'll learn some do's and don'ts for promoting nonworking horses' optimal health (and preventing potential problems) with nutrition.



## DEFINING “NONWORKING”

“When a horse is not working, we often refer to them as being ‘idle’ and, more than likely, we are talking about a horse that is either retired or is idle due to disease, injury, weather/season or time of year, or perhaps in between competitions or events,” says Amanda Adams, PhD, MARS EQUESTRIAN Research Fellow at the University of Kentucky M.H. Gluck Equine Research Center, in Lexington. “Or in my case they are simply part of the family and, if we are both lucky, we trail/pleasure ride a few times a year, time permitting and, thus, there is quite a bit of ‘idle’ time.”

## DON'T: IGNORE BODY CONDITION

While your nonworking horse doesn't necessarily need to carry a rider around a jump course or up and down a trail, his fat cover remains an important part of his overall health, says Krishona Martinson, PhD, professor and equine extension specialist at the University of Minnesota College of Food, Agricultural and Natural Resources Sciences' Department of Animal Science, in St. Paul.

“We know that both thin and obese horses are at a greater risk for certain disorders compared to horses at a healthy or recommended body weight,” she says. “For example, horses that become overweight have a higher chance of suffering from laminitis and tend to have challenges controlling their body temperatures (e.g., can overheat).”

Conversely, underweight horses could lack the fat stores necessary to withstand low temperatures and other stressful situations. They can develop health issues such as weakness and impaired gastrointestinal function, wound healing, and immunity.

## DO: EVALUATE WEIGHT AND BCS REGULARLY

Nutritionists and veterinarians recommend keeping horses around a body condition score (BCS) of 4 to 6 on the 9-point Henneke scale. The trick to maintaining a healthy weight and BCS? Monitoring them regularly so changes don't sneak up on you. “We recommend that owners track their horse's body weight and body condition score on a monthly basis,” Martinson says. “It takes a minimal amount of time and can easily be done while grooming.”

## DO: CONSIDER THE HORSE'S LIFE STAGE

Whether young and unbroke, mature and injured, or old and retired, your idle horse has specific nutrient needs based on life stage. For example, Martinson says, young horses have unique and important nutrient requirements to ensure safe and consistent growth and skeletal development and to put them on the right path for good health over their entire lives. Pregnant and lactating mares require enough calories and nutrients for themselves plus their developing dependents.

Then there are our senior equine friends that face a number of possible health issues that impact body condition and nutrient requirements, from dental issues to diminished digestive efficiency. They might require a higher-fat diet than a normal adult horse to help maintain weight, or they might not be able to chew hay or grass well enough for their bodies to extract the nutrients they need.

Adams, who's studied older horses extensively, cautions that it's important to consider the aging horse's metabolic status to pinpoint or rule out underlying issues that could impact his or her ideal diet, such as equine metabolic syndrome, insulin dysregulation, or pituitary pars intermedia dysfunction (equine Cushing's). “Metabolic status will definitely drive how the horse is managed and what diet they should be maintained on,” she says.

## DON'T: OVERLOOK NUTRITIONAL NEEDS

Idle horses or horses at maintenance have similar vitamin, mineral, protein, and other requirements as working horses, even though they're not working.

“It's best to reach out to an equine nutritionist, local extension educator, or veterinarian to help you determine what type of diet your horse should be maintained on,” Adams says, but notes key points to remember about any horse's diet:

- Forage (grass and/or hay) should be the foundation. “A horse typically requires 1.5-2.5% of their body weight in forage daily, and this varies depending on their BCS, age, and working status,” she says.
- Having hay analyzed is key to ensuring a horse's nutritional needs are being met. You can work with an extension agent to help with this, or you can send a sample for analysis to a forage laboratory.

- Importantly, provide adequate clean, fresh water, because an average size horse will drink 5-10 gallons per day. If horses are at a healthy body weight and have access to good-quality hay, then a ration balancer is usually the only additional feedstuff needed, Martinson says (more on these in a moment). “And if the horses are on pasture for the majority of the time, it's possible no additional feedstuffs are required,” she says.

Keep in mind that while good-quality pasture can supply all the nutrients some horses need, it can inevitably lead to unwanted weight gain. “In this case, a grazing muzzle can help limit intake while keeping the horse on pasture,” Martinson says.

Of course, reducing pasture intake reduces the nutrients a horse consumes, so muzzled horses might also benefit from a ration balancer to meet their nutritional needs. Again, “working with an equine nutritionist is the best way to ensure your horse, regardless of activity level, is getting proper nutrition,” Martinson says.

## DO: CONSIDER RATION BALANCERS

For idle horses that need proper nutrient levels without the calories of commercial feeds, balancers are the answer.

“A ration balancer is essentially a supplement because it is not a complete feed or a performance feed,” Adams says. “It does not provide calories, as it is designed to only provide (high-quality) protein, vitamins, and minerals that may be lacking in a horse's diet. A ration balancer is a heavily fortified formulation that is fed in small amounts of 1 to 2 pounds per day per horse that (balances the diet) without causing the horse to pack on additional pounds.” Another reason they're helpful for idle horses is, because of their low-calorie status, they're low in starch and sugar, or nonstructural carbohydrates (NSC). For this reason, says Adams, they have a low glycemic index that's ideal for horses with metabolic issues, especially those prone to laminitis.

## DO: INCREASE FORAGE FIRST FOR UNDERWEIGHT HORSES

Yes, many idle horses gain weight in the absence of regular exercise. But a few will drop pounds or remain lean when they're not in work. Owners might discover a horse doesn't thrive in a 24/7 turnout scenario, for instance, or temperature extremes might result in weight loss. Underlying medical issues, such as poor dental health or undiagnosed infections, could cause a horse to be underweight, and Martinson says it's important to rule those out first before adjusting the diet.

“Assuming there are no underlying medical issues, it usually best to either increase the amount (or) quality of forage fed,” she says. “For example, going from a poor-quality grass hay to a better-quality grass-legume hay can sometimes be enough to result in weight gain.” She cautioned horse owners to make any dietary changes slowly over the course of seven to 10 days.

## CONSISTENT ATTENTION IS KEY

Just because a horse isn't actively working doesn't mean his diet isn't an important part of his well-being.

“All horses, regardless of working status, have nutrient requirements that need to be met,” Martinson says. “For adult idle horses or pasture pets, keeping these horses at a healthy body weight is usually the challenge.

“Consistently tracking body weight, body condition score, and other indicators of healthy body weight are key,” she adds. “Using research-based tools is also important and include grazing muzzles while on pasture, slow-feed haynets, and ration balancers. Finally, these horses rarely require grain, and owners should focus on maximizing forage in the diet.”

*The Horse*

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## WEANING WAYS

### HERE'S HOW TO HELP YOUR WEANLING FOAL TRANSITION TO ADULTHOOD AS SMOOTHLY AS POSSIBLE.

Weaning can be an exciting time for you to introduce your young horse to new things without his dam by his side. You get to watch his personality and intellect develop, while catching a glimpse of his potential for future athletic endeavors. But for the weanling, it might just be one of the most stressful times in his life. To help make this critical period in a young horse's

life go smoothly, Amanda Adams, PhD, of the University of Kentucky's Gluck Equine Research Center, and Sarah Ralston, VMD, PhD, of Rutgers University's Department of Animal Science, share their weaning tips.

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### WHEN AND HOW TO WEAN FOALS

Selecting the appropriate weaning time for each foal is very important; you can't just pick a convenient date on the calendar for the split. Our sources suggest weaning no earlier than four months of age, to allow the foal ample time to grow and develop a strong immune system before leaving mom's side. "Based on research conducted in swine/bovine, early weaning has deleterious effects on weight gain and immune function, and this is likely the case if foals are weaned too early," Adams says.

Likewise, how you wean your foal impacts his stress level. Adams and Ralston note that gradual weaning, or removing one broodmare from a mare and foal herd at a time, is less stressful for the foal than abrupt weaning, or separating the entire herd of mares from the foals cold turkey.

Another method involves turning nonrelated mares out with foals at the time they are weaned. In 2006 French researchers concluded that this approach reduced behavioral as well as physiological stress, with foals exhibiting less vocalization and aggression and better social cohesion. In addition, the adult-weaned foals secreted lower levels of the stress hormone cortisol in their saliva over the first four days post-weaning than their peer-weaned counterparts. Adams says scientists believe cortisol contributes to a suppressed immune system response during and after weaning.

Ralston suggests turning weanlings out with a well-behaved gelding or nonrelated mare both for companionship and for teaching them how to behave.

Weaning is a great time to emphasize good ground manners, such as leading well, picking up feet readily, and standing for grooming and baths. Adams and her colleagues get each foal used to human handling by interacting with him at his dam's side. It's also a good time for new exposures and experiences.

But properly preparing a foal for his independence from mom isn't just about timing, herd dynamics, and handling. "Before you wean, be sure that you have introduced foals to the new diet they will be eating after they are weaned," Adams says. "I like to introduce new dietary factors around a month prior to weaning."

### FEEDING WEANLINGS

Ralston's primary advice for selecting weanling diets is to keep it simple. Weanlings need a steady nutritional plan, she explains, and should not be undernourished or overfed, as either extreme can lead to developmental issues.

"It's important to feed a good alfalfa or legume-based forage to give the horses their protein and calcium, and then figure in any grain to provide other minerals and extra energy if needed," Ralston continues. "The old fear of (feeding weanlings) excess protein has been proven repeatedly to be false. The real danger is overfeeding energy, especially carbohydrates, with inadequate mineral intake."

Too much energy promotes rapid development at a time when foals are already growing like weeds (particularly from 4 to 6 months old). "We had Draft-cross weanlings gaining over one pound a day and growing 3/4 to 1 inch in height every week or two," Ralston says. "If their nutrition is imbalanced (i.e., too much energy and not enough protein or minerals), problems such as epiphysitis (growth plate inflammation), poor bone growth, and flexural deformities will show up and progress very quickly. So if you start to see issues, don't wait—reassess your feeding program or call in a nutrition specialist ASAP. You want to nip those issues in the bud.


"In my experience, many horse owners are underfeeding minerals, especially calcium and phosphorus," Ralston continues, which she describes as building blocks to an ideal diet. "If you do feed a concentrate, make sure it is formulated specifically for growth, with added calcium, phosphorus, and trace minerals such as copper and zinc." Adams underscores the importance of introducing the new diet slowly, starting with the good-quality forage and gradually adding and increasing the amount of concentrate as necessary. Creep feeding (offering a commercial concentrate formulated for foals, separate from the mare) and ahead of weaning helps introduce this new diet without the foal having to compete with the mare. "In fact, creep-fed foals cope better with weaning stress and have less weight loss during weaning," she says.

### TAKE-HOME MESSAGE

The bottom line with nutrition, says Ralston, is to reach a happy medium. "You don't want the foals to be too fat or too thin," she says. "You don't want to see their ribs, but you do want to be able to feel them. If they are getting adequate nutrition their coats will have a natural shine to them, and they should be active, playful, and alert."

Monitor your foals closely throughout the 21-day period. Look for signs that something's wrong: Foals that are off their feed, appear lethargic or dull, or that develop a snotty nose or diarrhea require veterinary attention, Adams says.



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