

BY NATALIE DEFEE MENDIK
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FEED

HIGHS AND LOWS

The Quest for the "Just-Right" Diet

Atkins, South Beach, Paleo. Lots of high-this, low-that diets for people go in and out of style. Luckily, tailoring a diet to meet your horse's needs doesn't involve an infomercial. Simplicity is key: with a diet based on high-quality forage, all you need is the right concentrate to round things out. Options for customized feeds abound as manufacturers develop more and more sophisticated formulas. The days of "a flake of hay and a coffee can of sweet feed" are over.

THE FEED: Ration balancer, also known as a balancer pellet.

THE CANDIDATE: Any horse that can maintain condition on a forage-based diet.

THE LOW-DOWN: For easy keepers, a ration balancer may be just what the doctor ordered. Many horses do well on a forage-based diet without additional concentrates; a ration balancer is a simple solution that rounds out a hay or pasture diet, as nutrients may fluctuate, be imbalanced, or missing altogether depending on pasture quality, and different types/cuts of hay. Designed to be fed in small quantities, a ration balancer

provides concentrated levels of vitamins, minerals, and protein (in the 30% range) without significant calories and typically with low starch and sugar.

"Can your horse maintain its condition on forage alone?" asks equine nutritionist Dr. Clair Thunes. "If your horse can do his job and maintain adequate body condition being fed just hay, then you don't really need 'grain'—you don't need an extra calorie source. Hays, for the most part, provide adequate calories, protein, and macrominerals—calcium, phosphorous, magnesium."

Where issues may arise, notes Thunes, is that forage alone may not provide enough copper, zinc, vitamin E, selenium, or omega fatty acids. In addition, an optimal diet requires specific mineral ratios. "A lot of people know about calcium:phosphorous, but not about other mineral ratios, like zinc:copper," remarks Thunes. "So, if you are feeding enough hay, you may meet the zinc and copper requirements, but they may not be very balanced."

In addition, protein may vary in hays. "Most horses can get adequate protein from their hay, but the protein quality may not be as good as it could be," explains Thunes. "When we're talking about protein quality, we're talking about the quantity of essential amino acids. Protein will help with coat, hoof, and muscle."

A ration balancer fills these gaps. Even better, some regionally-manufactured feeds may be balanced according to local needs. For example, explains Thunes, in California the alfalfa is very high in calcium, so West Coast-targeted ration balancers tailored for alfalfa-based diets may provide more phosphorus than calcium to balance the high calcium in the local alfalfa.

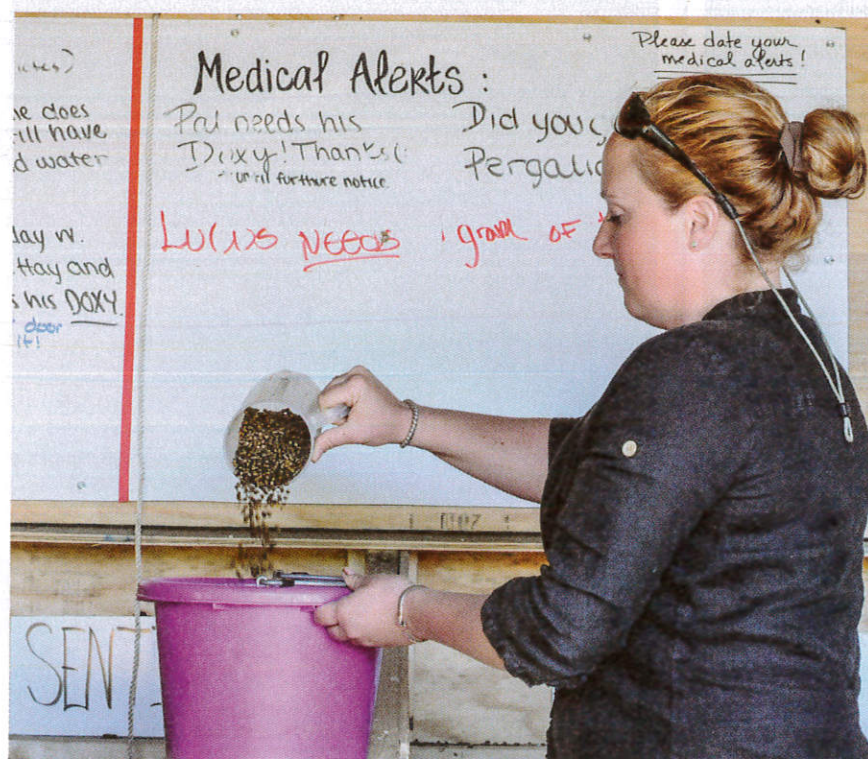
Whether a lower-level dressage warmblood, a lactating broodmare, or a faithful trail buddy, many easy-keeper types thrive on forage rounded out with a ration balancer.

THE FEED: Complete feeds.

THE CANDIDATE: Horses unable to consume forage and in times when forage supplies are limited.

THE LOW-DOWN: This all-rounder, generally sold as a senior feed, is intended to perform just as its name implies: as a complete feed. For horses such as elderly equines with little or no ability to chew grass and hay, a complete feed supplies all the nutrients and fiber needed to fulfill the horse's total dietary needs—think fiber, fat, protein, vitamins, and minerals.

"I tend to see people feed a forage-based diet together with a scoop of complete feed, such as a senior feed," remarks Thunes. "The misconception is that since it's called a complete



With the increasing variety of feeds available, it is easy to find one that matches your horse's exact needs.

Know Thy Feed

When it comes to getting your horse's diet spot on, a few simple steps are key:

- Inform yourself: read labels, refer to more detailed information on the manufacturer's website, and don't be afraid to consult with a reputable source—call the feed manufacturer, hire a nutritionist, refer to your veterinarian.
- Weigh your feed: don't feed by volume, but rather by weight. Although some feed scoops have lines demarking weight, not all concentrates measure out the same. Have a scale in your feed room. Once you know you know how much to scoop for each horse, you won't have to weigh each time.
- For a feed to provide all the nutrients it claims, following the manufacturer's feeding guidelines is a must.
- Understand how much your horse weighs; a commercial weight tape provides a close approximate weight. A Henneke Body Condition Scoring chart acts as a good visual reference for where your horse falls on the weight spectrum.
- Having your hay analyzed clarifies the nutritional content in your forage. Contact your county extension agent or a diagnostic lab, whether a commercial lab or one offered by a university agricultural department.
- Remember that quality forage forms the base of your horse's diet. In an ideal world, your horse should have continual access to forage, at about 2% of your horse's body weight per day. A small-hole hay net is a great way to keep hay in front of your horse at all times.

feed, the horse is getting everything it needs. In the feed industry, that term means that it contains all of the horse's nutritional needs including the forage the horse needs, and is designed to be fed as the only thing the horse eats. Therefore, when you look at the nutrient density of that diet, the concentration per pound is low, because they are expecting you to feed about 1.5% of the horse's body weight in complete feed per day. When you only feed a pound of a complete senior feed, it's very likely your horse has deficiencies in his diet."

To that end, if you plan to feed a few pounds of concentrates per day along with hay and pasture, look to other available feed formulas. To truly fill the gaps left by little or no forage, look for a complete

feed that offers at least 17% fiber from high-quality sources, such as shredded beet pulp, alfalfa meal, and soy hulls. Soaking feed and using a feed pan on the ground can help reduce the risk of choking in horses with poor dentition.

THE FEED: Low sugar/low starch.

THE CANDIDATE: Metabolically-challenged horses, "hot" performance horses.

THE LOW-DOWN: A low-sugar/low-starch formula delivers a grain-free feed designed to meet the needs of metabolically-compromised equines. Some rely on super fibers and high fat to provide a high-calorie feed option that boots energy without making the horse too "hot." Ingredients such as wheat middlings and wheat mill run play a role in these formulas, providing high caloric content with low starch.



For horses that do well on forage alone, a ration balancer may be the answer as it rounds out a hay or pasture diet with a balanced amount of nutrients.

"'Low carb' is a pet-peeve term of mine," remarks Thunes. "No horse is on a low-carb diet. What is meant is 'low starch, low sugar,' based in complex carbohydrates that don't cause a blood spike of glucose. Horses need carbohydrates."

For insulin-resistant horses on a low starch, low sugar diet, Thunes recommends also having your hay analyzed. "Hay testing is really important for horses with a history of laminitis and tying up due to PSSM. Soaking the hay about half an hour eliminates some water-soluble sugars, although how much depends on the hay.

Metabolically-challenged horses' hay and feed should measure less than 10-12% in starch and sugar," notes Thunes, who goes on to recommend phoning your feed company if you are unsure if a feed is appropriate for your horse.

THE FEED: High calorie: high fat, high starch.

THE CANDIDATE: Performance horses in intense work, hard keepers.

THE LOW-DOWN: Real athletes needing that extra spark of energy and hard keepers that have trouble holding weight may require a calorie-dense feed—think eventing Thoroughbreds in heavy training, show jumpers competing at high levels, and the like. Performance feeds provide additional calories from starch, sugar, fat, and super fibers from sources such as barley, oats, molasses, beet pulp, rice bran, vegetable oil, and flaxseed. "What you pick for your horse depends on what you are doing with your horse. Choose your energy sources based on discipline and work load," says Thunes. "Certain fuel sources are utilized differently when a horse is working anaerobically versus aerobically."

Thunes gives the example of a barrel racer that makes a lightning fast run in and out of the arena in 17 seconds. "A barrel racer is working anaerobically—burning carbohydrates on competition day—needs some starch in the diet," she says. "You can't burn fat anaerobically, but you still use some fat in the diet on days you are doing other training, such as trot sets."

Endurance horses, on the other hand, tend to work more aerobically, notes Thunes, except, for example, a horse competing in the Tevis Cup, that's performing

All Fats Are Not Created Equal

"I would love for people to stop feeding corn oil," says Thunes. "It's all Omega-6 fatty acids—there are no Omega-3s at all. There are other oil choices out there now, such as flaxseed oil, camelina oil, and chia."

So what's the big deal about Omega-3 and Omega-6? Quite a lot, actually. "Both types of fatty acid impact inflammatory response at a cellular level with Omega-3 fatty acids having an anti-inflammatory impact and Omega-6 fatty acids having a more pro-inflammatory action. While both forms of fat are essential in the diet, too much Omega-6 may result in excessive inflammation," explains Thunes. "While the exact ratio of Omega-3 to Omega-6 in the equine diet is not known, it is generally accepted that reducing Omega-6 intake while ensuring a source of Omega-3 in the diet is beneficial. Increasing Omega-3 intakes may even help improve insulin sensitivity in insulin resistant horses."

anaerobically for periods while negotiating steep hills. Whether an aerobically-working dressage horse that might benefit from more "calming" fat in the diet or an event horse that needs a combination of starch and fat to tackle different phases, high calorie performance feeds are designed to provide the right energy source for different types of athletes.

TODAY'S OPTIONS

With the science of equine nutrition exponentially growing, feed manufacturers increasingly tailor formulas to suit a myriad of needs. Read labels, consult with your veterinarian, equine nutritionist, or feed representative to find just the right diet for each horse. Whether you have a performance horse with high energy needs, a metabolically compromised equine, growing youngster, breeding mare, or any other scenario, the right mix is out there. ■

Natalie DeFee Mendik is an award-winning journalist specializing in equine media. Visit her online at MendikMedia.com.

Weighing in on Feeding Matters: Our Expert

Dr. Clair Thunes, PhD, of Summit Equine Nutrition (summit-equine.com) is an independent equine nutrition specialist. Summit Equine Nutrition, whose motto "PhD stands for People, Horses, & Diet" offers customized consulting for all breeds and disciplines.