



# You feed your horse *what?*

Horse owners are used to offering their horses feed-stuffs that are typical to their locale. Few probably think little about the unusual treats that horse owners the world over might give their horses. Here's a sampling of some curious equine cuisine.



## A FASCINATION WITH FRUITS

Apples are passé. Check out the other fruits and fruit by-products that equids the world over enjoy.

In Germany, pears are fed to horses much as apples are fed in other parts of the world. They are juicy, sweet treats. Pears are grown in abundance in Germany, so there are always plenty for the horses. In addition to devouring the entire fruit, some horses are given pear pomace, which is left over from the manufacture of pear schnapps, a distilled alcoholic beverage. The pomace, or solid remains of the fruit after being pressed to derive juice, includes skins, pulp, seeds, and stems. Pear pomace is low in protein and high in crude fiber (20-30%), and can be mixed into feed at a rate of 1-2 lb/100 lb (1-2 kg/100 kg) body weight.

Various regions in France have at their disposal an almost limitless supply of grape pomace due to the country's voluminous wine production. "Two types of grape pomace are typically available, that which includes seeds, skins, and stems, and that which includes only the lees or residual yeast following fermentation. Grape pomace is usually used in conjunction with a more typical forage like hay or chaff, as it contains little protein or energy," said Kath-

Bread, figs, bananas, turnips, honey, pears, potatoes, and herring are just a few of the unusual things fed to horses throughout the world.

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Endurance horses are often given bananas at checkpoints during a competition.



leen Crandell, longtime nutritionist at Kentucky Equine Research. Horses generally find grape pomace palatable, though care should be taken to avoid feeding if it is moldy or has an excessive amount of residual alcohol.

Once described as a “leathery berry,” bananas are known the world over as a rich source of potassium. They are composed of approximately 75% water and 25% dry matter. Many horses will devour bananas, peeled or not. According to Crandell, bananas are high in energy and rich in phospholipids, which can assist in preventing acid damage to the stomach and ulcer formation. “At the 2000 Olympic Games in Sydney, Australia, seven countries were found to be feeding bananas to the equine athletes. Bananas have been known to find their way into many endurance horses’ competition diets,” said Crandell.

Dates are used in the Middle East as a quick pick-me-up for tired horses, and at one time they were known to be a major portion of the diet of Bedouin horses. Because they have been a staple food in that region for thousands of years, dates are plentiful. Composed of approximately 65% sugar, dates are incredibly sweet, and it’s this sweetness that lures horses. Dates have about 10% fiber. They are also fairly high in potassium. They are best fed pitted, as the seeds are indigestible and can accumulate in the gastrointestinal tract, leading to colic, cautions Crandell.

Like dates, dried figs are also fed to horses in some parts of the world. Figs are one of the richest plant sources of calcium and fiber. Certain dried figs are chock-full of copper, manganese, magnesium, potassium, calcium, and vitamin K, and have smaller amounts of many other nutrients.

## A VARIETY OF ROOT VEGETABLES

Except for carrots, vegetables are not usually offered to horses, even as treats, but in some regions, they are perfectly acceptable and useful dietary components.

Noted German equine nutritionists Helmut Meyer and Manfred Coenen in their book *Pferdefütterung* mention the widespread use of turnips and fodder beets when horses were used for hard work and manpower was less expensive. The primary drawbacks of using these vegetables were storing them and preparing them to be fed. Turnips and beets had to be scrubbed thoroughly so excessive dirt was not introduced into the gastrointestinal tract. As for nutritive value, they are highly digestible because of their fiber content. They are also rich in starch and sugar with moderate to high levels of certain B vitamins. Even though they are energy-dense feedstuffs

because of their high starch and sugar content, turnips and beets are full of water so it takes many of them to get calories into the horse. They were, however, useful in keeping horses hydrated.

These roots take up pollutants readily, so with the current pollution problems in Europe, there are concerns with feeding root fodder to horses now.

Turnips were fed because they were so easy to cultivate, but the long-term feeding of the root can have adverse effects on thyroid function. Turnips are not terribly palatable to horses because of the typically strong mustard flavor. They should never be fed to mares or foals, but if worked into the diet of a working horse very gradually, the horse can eat up to 1 lb/100 lb (1 kg/100 kg) body weight per day.



Turnips are easy to cultivate, and horses digest them well because of their fiber content.

**“Of the different types of fodder beets used in the past, sugar beets are probably the only ones still used routinely.”**

**Kathleen Crandell**

“Of the different types of fodder beets used in the past, sugar beets are probably the only ones still used routinely. While they can be fed straight from the field with considerably high sugar content, more commonly the by-product of sugar beets processing, known as beet pulp, is what is being used,” remarked Crandell.

Potatoes are often fed to horses in parts of Europe, especially those countries that grow an abundance such as Holland. Typically fed in the winter as a source of energy, potatoes, like turnips and beets, should be cleaned thor-

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Potatoes were once a mainstay in the diets of horses because of their energy density and abundance in various parts of the world.

oughly. If fed raw, they should not be fed at more than 2 lb/100 lb (2 kg/100 kg) body weight. They should not be offered to broodmares and foals. The preferred method of feeding is following cooking, which increases palatability and digestibility. Heavy, hard-working draft horses were often fed up to 55 lb (25 kg) of potatoes per day. Though potatoes were once fed to working horses with regularity in the United States, use has fallen out of favor because of readily available cereal grains. Horses should never be fed green potatoes or potato plant leaves as they are high in solanine, a glycoalkaloid poison.

Though probably less of a vegetable and more of a root, cassava is a starch-laden staple in the diets of humans in many countries around the world. Also known as yucca root, the root has the potential to form cyanide if not handled properly and should never be fed raw unless it has been dried or soaked, or it can be cooked. There are two types: sweet and bitter, the bitter being much higher in the cyanogenic glycosides. According to Crandell, “When used for horses, it is best to feed the sweet variety ground and mixed into feed because the bitter is not very palatable. The root is high in starch, calcium, phosphorus, and vitamin C but low in protein. Cassava is used in some foreign horse feeds as a starch source to lower the cost as it can be less expensive than grains.”

## OTHER FEEDS OF INTEREST

In Spain, carob pods are sometimes fed to horses as treats. Carob pods are long, dark pods that contain seeds. In Roger Wolter’s book *Alimentation du Cheval*, more information is provided on the nutritional content of the carob pod. With 40-45% dry matter sugar, it’s comparable to molasses, which makes it incredibly appealing to horses and can be fed safely up to 9 lb (4 kg) per day. The seeds should be removed because they are hard and essentially indigestible. The pods are dried, ground, and preferably mixed with other feed to force the horse to eat more slowly and chew well. There is some concern that if eaten greedily without being thoroughly chewed horses may choke on balled-up pod fragments. Carob also contains gel-forming fibers like pectins that have a binding effect on the contents of the intestinal tract.

Large, flat beans called habas are also fed in Spain. These look similar to lima beans but are much plumper. Habas are given to boost protein and energy in the diet. They have a complete amino acid profile making them a high-quality protein source. Habas contain a trypsin inhibitor and need to be cooked or heat-treated to denature the enzyme before feeding if fed a significant

quantity. These beans are rich in phosphorus and poor in calcium, so that has to be taken into consideration when large amounts are fed.

Corn silage is occasionally fed in northern European countries. Silage is the fermented, high-moisture fodder made from ensiling chopped whole corn plants, including the ears. Though it is typically fed to ruminants such as cattle, corn silage is used as a forage and grain source for horses in the winter when the animals are in the pastures. In many instances, corn silage is the sole source of forage. Corn silage is most often used by those very experienced with handling silage and knowledgeable about what spoiled silage looks and smells like.

### HERRING, HONEY, AND BREAD

Fish meal is considered the highest quality protein source for any animal, so some South American feed manufacturers add it to horse feed if the price permits. Fish is fed in other parts of the world as well. Long ago in Iceland, salt herring was fed to supply vitamin A to the horses during the long, cold winters when there was no fresh forage. Horsemen probably didn't realize that they were also giving their horses the vital omega-3 fatty acids found in fish oil at the same time, but they surely noticed the difference in their horses' coats.

Honey is used throughout the world as a palatable energy source. It is usually fed right before exercise to supply energy because high-fructose honey is absorbed more slowly into

the bloodstream than sugar. The French endurance team surprised many riders when they were first seen feeding a pound of honey at each checkpoint during international endurance races. Since then, it is becoming more commonplace among elite equine endurance athletes.

Day-old bread is often fed to horses in Spain and other European countries. "When I lived in Spain, the bread sold there would get stale the day after baking it. I would save the stale bread and take it to the stables to give it to the horses, and they loved it!" said Crandell. She doesn't have the same luck with typical store-bought bread in the United States. "I have tried to feed my horses bread here in the United States, and they won't eat it. I am sure there is a limit to the amount of bread you should feed a horse because the gluten in the bread may cause an impaction, but in Spain we never fed enough to make it an issue. We used it as a treat," said Crandell.

Grape pomace, turnips, corn silage, and stale bread? Who would have thought? While it is interesting to know how horses are managed nutritionally in various parts of the world, past and present, it is always best to work with a qualified equine nutritionist to devise a ration that's right for your horse. 🍯



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