



Feeding Fat to Horses: An Alternative to High Grain Diets

Fat is the ultimate nutrient for adding extra calories to the equine diet. Adding fat to the diet provides a safer alternative to grains for horses with increased energy demands or hard keepers. Fat can be added to the diet by top dressing with vegetable oil, feeding a high fat ingredient, feeding a high fat commercial grain mix, or feeding a high fat fortified supplement.

Benefits of Feeding Fat

- Add extra calories to the diet while avoiding digestive and metabolic disturbances associated with high grain diets.
- High fat diets improve endurance and heat tolerance during exercise.
- High fat diets may have a calming effect on behavior.
- Fat aids in the absorption of fat-soluble vitamins (A, D, E and K).
- Fat improves coat and skin condition.
- Omega-3 fatty acids may improve inflammatory response and immune function.

Adding Fat to the Diet

Vegetable oils are 100% fat and offer the most efficient and economical source of fat (Table 1). Vegetable oil is top-dressed to the ration at a rate of 1 to 2 cups (8 to 16 oz.) per day to see benefits for most horses. If more than 2 cups are fed per day, caution should be used to make sure that all nutrient requirements are being met. Canola and soybean oils are recommended because

they have a slightly higher amount of omega 3 fatty acids (although not as high as forages and some other fat sources like flaxseed and fish oil). Fish oil is not palatable to horses at the rate necessary for increasing energy in the diet. High fat ingredients like rice bran and flaxseed can also be used, but they only contain 20-40% fat, so a greater quantity must be fed. High fat grain mixes and fortified supplements typically contain 10-20% fat and provide an advantage in that they are fortified with protein, minerals and vitamins. Feeding rates and fat source vary between products, so it's important to follow the manufacturers feeding recommendations. Regardless of the type of fat or product you choose to feed, changes to the diet should be made gradually over a few weeks. Oils and high fat feeds should be stored in a cool, dry place to prevent them from becoming rancid.

Table 1. Comparison of fat sources. (Adapted from L. Warren, 2011)

Feed	Total Fat Content	Calories per lb	Caloric Equivalent to 1 cup oil	Ome ga-6	Omega-3
Canola Oil	100%	4,000	0.5 lb	21%	11%
Corn Oil	100%	4,000	0.5 lb	57%	2%
Soybean Oil	100%	4,000	0.5 lb	54%	8%
Rice Bran	22 %	1,750	1.0 lb	34%	2%
Flaxseed	40 %	1,540	1.3 llb	16%	57%