



Oil as an energy source for athletic horses – brief notes

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Why are fats and oils added to horse feeds?

Oil is a useful addition to the feeding program of growing and hard-working horses. The main purpose of adding oil to rations is to *increase the energy density* of the diet.

Benefits of oil supplementation

Reported benefits include:

- Lower lactic acid accumulation in muscles and blood by sparing glycogen use;
- Reduced severity of tying-up;
- Reduced muscle damage;
- Calmer behaviour in horses on typically high grain diets;
- Reduction in total body heat production;
- Improved body and coat condition.

Supplemental fats are well utilised by the horse

Studies show that fats and oils added to the horse's diet are well digested and utilized by the horse for energy more efficiently than other sources of digestible energy.

Oils are energy dense

One cup of oil provides approximately the same amount of energy as $\frac{3}{4}$ dipper (standard 2L dipper) of oats or $\frac{1}{2}$ dipper cracked corn.

Fats and oils are more expensive per unit of weight than cereal grain, but since they can provide two to three times more available energy, they may not be much more expensive on a digestible energy basis.

Are oils only useful for horses doing long-distance activity?

In short the answer to this is no. High-fat diets have been shown to enhance both aerobic and anaerobic activity and to delay fatigue.

Omega fatty acid balance

Each oil or fat has a blend of different fatty acids (Omega-3, Omega-6) in its triglyceride content. Horses that consume adequate quantities of fresh forage and/or good quality hay will receive good amounts of Omega-3 however supplementation with both Omega-3 and Omega-6 should be considered for horses on high grain diets.

The ideal ratio of Omega 6:3 has not yet been determined. The maximum ratio of Omega-6 to Omega-3 has been suggested to be 10:1 but it is likely that a lower ratio would be more beneficial for horse health.

How much oil should be added to the feed?

Horses will generally tolerate up to two cups of oil added to the diet daily, depending on the amount of oil already present in the feed.

Other key points about feeding oils

- Oils should be introduced slowly into the diet;
- Complete metabolic adaptation to a high-fat diet may take several months;
- Oils should be stored in a cool place;
- Cold pressed oils normally contain less rancid fat;
- Fats and oils do not contain any other nutrient other than energy and fatty acids for membrane stability. Where larger volumes of oil are added to a diet in place of concentrates, extra protein, calcium, phosphorus, Vitamin E and possibly other nutrients may need to be replaced, especially in racing and performance horses.