

Alpha & Omega

The power duo of Omega-3 & Omega-6 have many positive health benefits for your horse. Find out how they help, where to find them and what the right balance is for these essential fatty acids.

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Just as healthy fats are a popular theme in human nutrition, certain nutritious fatty acids play a role in equine diets as well. In particular, omega-3 and omega-6 pack a nutritious punch. What are the sources of "good fats" for horses? What types of horses benefit from a fat supplement? Why is a balanced diet so important? Join us as equine nutrition specialist, Dr. Juliet Getty, walks us through a primer on supplementing your horse's diet with essential fatty acids.

Just as Nature Intended

Alpha-linolenic acid (ALA), or omega-3s, and linoleic acid (LA), or omega-6s, provide vital support in the horse's body. These two nutrients are considered "essential," meaning these fatty acids are required for normal physiological function, yet the body is unable to produce them; therefore, omega-3 and omega-6 must be a part of the horse's diet. Essential fatty acids are necessary for numerous metabolic processes in the body.

The beauty of this situation is that nature has created the optimal solution to the body's needs in the form of pasture. "Grass is a natural source of feed and is also the most nutritious dietary source of many nutrients, including fatty acids," explains Dr. Getty. "Fresh grass typically has omega-3 fatty acids and omega-6 fatty acids. It makes sense from a natural perspective that grass would contain both of these."

Central to the existence of these two fatty acids in the horse's diet is also the ratio at which they are present. "Both are necessary, but must be in correct balance," notes Dr. Getty. "The ratio of omega-3 to omega-6 should typically be 4:1, meaning four times more omega-3s than omega-6s. This is

where the horse does best." This is also the ratio at which these two essential nutrients are found in quality pasture.

While omega-3 to omega-6 work together, correct proportion between the two is critical as these two nutrients perform different functions. When out of balance, adverse conditions can result. "While omega-3s reduce inflammation, omega-6s have the opposite effect and increase inflammation," remarks Dr. Getty. Although omega-6s' inflammatory properties may sound alarming, a certain amount of inflammation is necessary to heal tissue and fight infection. Omega-3s keep omega-6s' inflammatory nature in correct balance.

Benefits

Omega-3s provide a myriad of positive physiological effects. Dr. Getty explains that these benefits include:

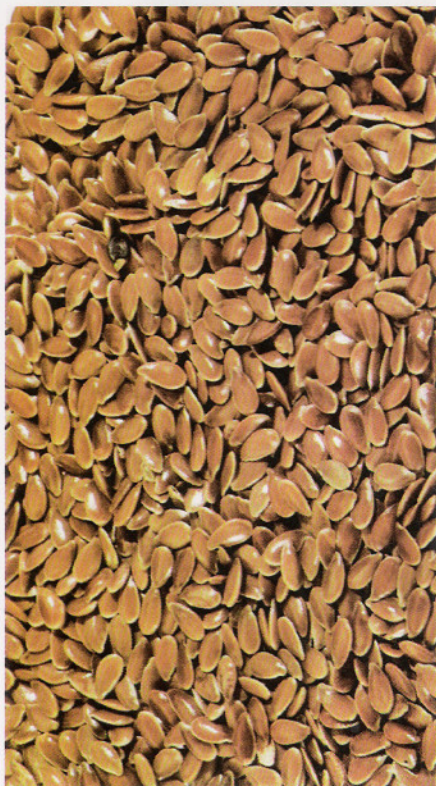
- Improved immune function
- Reduced inflammation
- Healthy hooves, skin and coat
- Insulin regulation
- Improved vascular health
- Improved sperm motility

Omega Candidates

- Underweight horses
- Aging horses
- Horses with joint or muscle soreness
- Insulin-resistant horses
- Horses experiencing travel or performance stress
- Horses with skin problems like hives, dandruff or dull coats



During the summer months, horses on healthy pasture with at least eight hours of grass turnout are presumably getting access to enough omega-3s and -6s.



How do these play out in the horse's body? Omega-3 can alleviate inflammation in sport horses and older horses experiencing joint issues or muscle soreness. Overweight horses benefit from omega-3 as they may also experience inflammation due to excessive body fat. In addition, omega-3s' ability to regulate the level of insulin in the bloodstream addresses a problem common to overweight horses. Increased insulin circulating in the bloodstream of overweight horses can lead to insulin resistance, and consequently, more fat. "This can become a vicious cycle," says Dr. Getty. "Omega-3s can help alleviate that." Omega-3s' ability to keep the blood vessels strong improves immune function as well.

Flaxseed can be ground with a coffee grinder to create a meal that contains that optimal 4:1 ratio of omega-3 and omega-6.

This is especially notable in horses that are prone to allergies and horses that are exposed to increased bacteria and viruses, such as show horses.

Sources

As grazing animals, forage provides the bulk of the horse's diet." Horses on healthy pasture with at least eight hours of grass turnout are presumably getting access to enough omega-3s and -6s, and do not need a supplement," explains Dr. Getty. On the other hand, hay, the backbone of the horse's diet, has minimal fat content; the fat that was once in the grass is oxidized during cutting, drying and storage processes.

Standard grains that most horse owners feed can be problematic when it comes to the omega-3 and -6 balance. "Fat that is added to commercial feed is often in the form of soybean oil and corn oil," explains Dr. Getty. "Unfortunately, those oils contain mostly omega-6, throwing the omega-3

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to omega-6 ratio out of balance. That can lead to problems. Omega-6 is essential, so the horse does need some. When the ratio is inverted by adding oils that are high in omega-6s, the resulting problem is high levels of inflammation." For example, a diet containing soybean oil could exacerbate inflammation in a horse suffering from joint problems.

Getty recommends counteracting this imbalance by supplementing the horse's diet with flaxseed, which contains that optimal 4:1 ratio. Flaxseed can be ground with a coffee grinder to create a meal. This meal should be fed at a ½ cup of flaxseed meal per 400 pounds of body weight; do not feed more than a pound of flaxseed meal per day. The meal must be ground daily, as ground flaxseed meal begins to oxidize immediately, thereby going rancid.

Do not feed unground flaxseed, as these tiny seeds are surrounded by a hard hull that is often not adequately chewed. Unchewed seeds cannot be digested properly and can lead to colic or laminitis.

Flaxseed oil is also a good source of omega-3 and -6, but tends to be impractical as it is expensive and must be refrigerated. Chia seeds are another good source of omega-3 and omega-6 that come in close to the 4:1 ratio. Some horses have difficulty with the seeds getting caught in their teeth and gum line, however.

Lucky Braids Tail Tips

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1. Heads UP

Most shampoos use sodium chloride (salt!) which strips natural protective oils. Detanglers are expensive, toxic and suffocate hair, promoting breakage.

2. Comb Wet

Wet hair stretches. It is more forgiving. Use a big comb on clean, wet tails.



3. Twist & Hold

To protect the length and roots, first twist the tail. Then hold the bottom. Gently comb below your grip, always from the bottom as you work your way up the tail. Organize hair to the root.



4. Pick Daily

Use your fingers to pick pieces apart, separating strands to their base.

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The Lowdown on Fats

Polyunsaturated fats include omega-3 and omega-6. Fresh grass, flaxseed and chia seed are ideal sources of these beneficial nutrients.

Saturated fats are fats that remain solid at room temperature. These fats are not a healthy choice for horses. "Horses are not designed to eat large amounts of saturated fat, as saturated fat is predominantly an animal source of fat," explains Dr. Getty. Plant sources of saturated fat include coconut oil and other tropical oils. Dr. Getty notes that coconut oil, for example, contains more saturated fat than a hamburger.

Monounsaturated fats are liquid at room temperature. These are found in rice bran and olive oil. These are classified as omega-9s. Unlike omega-3 and omega-6, omega-9 is not an essential fatty acid; the horse is able to synthesize omega-9s. Omega-9s, therefore, do not need to be added to the horse's diet.

If you prefer to keep things simple, commercial omega-3 supplements are a convenient choice. An additional benefit to these supplements is that they often contain added calcium, as flaxseed alone is high in phosphorous, disturbing the calcium to phosphorous ratio. Supplements often also contain other sources of omega-3, such as chia seeds.

Fish Oil

As we all know from the hype in human nutrition, fish oil supplements are high in omega-3. However, not all omega-3s have the same dietary makeup. "Omega-3 is a way of classifying a fat based on its chemical structure," explains Dr. Getty. "Fish oils do not contain the essential omega-3 alpha linolenic acid (ALA). Instead, they contain docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). These are long-chained fatty omega-3 acids, which the horse has the ability to make, so these are not considered essential. In general, I don't recommend giving fish oils as they don't give the horse what he cannot make."

That is not to say, however, that fish oils have no place in the feed room. A 2004 University of Kentucky study concluded that fish oil plays a beneficial role in elements such as heart rate when added to the diet of fit sport horses. "Fish oil can be added to a diet that already contains ALA to further reduce inflammation, but I am reluctant as horses are herbivores.

We really don't know the long-term effect." Still, Dr. Getty notes that DHA and EPA have a potent anti-inflammatory effect that is almost like treating the horse medicinally with omega-3s. "I might consider giving it to a sore horse in a diet that already contains flax. People make the mistake of thinking it can replace a vegetable source of omega-3s."

Caveat Emptor

Dr. Getty encourages all horse owners to read the ingredient labels of their horse's feed and supplements. "Look for added flaxseed meal. Some products claim to contain omega-3s, but may actually contain very low levels of omega-3s, or in the wrong proportion to the omega-6s. Protect your horses by knowing what you are feeding. The more you know, the better off your horse will be." ■



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"The Doctor is In"

Dr. Juliet Getty, of Getty Equine Nutrition, LLC, is the author of the comprehensive equine nutrition reference, *Feed Your Horse Like a Horse*. Dr. Getty applies years of experience, backed by her philosophy of feeding the horse in sync with its natural needs. She offers private consultations and speaking engagements worldwide. In addition to her great insight into the horse's dietary needs, Dr. Getty possesses the ability to explain the processes in the horse's body in terms anyone can understand. Read Dr. Getty's articles covering numerous equine nutrition topics online at www.gettyequinenutrition.com.

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