

Integrate omega-3 fatty acids into your treatment plan

Omega-3s are anti-inflammatory in nature. Omega-3 fatty acids, especially EPA and DHA, added to the diet support lower levels of damaging inflammation, and an earlier immune response.

The science:

Omega-3 and omega-6 fatty acids are essential to the synthesis of prostaglandins. The primary function of prostaglandins is the regulation of bodily functions such as blood clotting, blood pressure, and immune and inflammatory responses.

Prostaglandins produced from the omega-6 series typically have a pro-inflammatory effect, while omega-3 series tend to have an anti-inflammatory effect.

Both the omega-3 and omega-6 fatty acids compete for the same enzymes in the production of prostaglandins, so it is the ratio of the omega-3 to omega-6 that has the greatest influence over the inflammatory response and other vital bodily functions.

When omega-6 acids are consumed in abundance, relative to the amount of omega-3, cells increase the production of prostaglandins from the omega-6 series, leading to an increase in inflammation, which, over time, leads to multiple health problems.

Horses have evolved to consume diets that contain a balanced omega-6 to omega-3 fatty acid ratio. In an effort to support the increasing energy demands made on modern horses, grains that are very high in omega-6 fatty acids are often fed. Grains throw the critical 3 to 6 ratio out of whack. Bringing the diet back into balance by adding high-quality omega-3 fatty acids will help maintain healthy ratios.

Cases where omega-3 fatty acid supplementation supports recovery and maintains healthier systems:

• Acute or chronic infection

Horses supplemented with long-chain omega-3 fatty acids, EPA and DHA, show an earlier inflammatory response, which is advantageous in fighting infections. A balanced ratio of omega-3 fatty acids to omega-6 fatty acids has been shown to reduce systemic inflammation.

• Arthritic changes that impact soundness

Research at Texas A&M and other facilities have shown that arthritic horses supplemented with omega-3 fatty acids had reduced levels of inflammation, exhibited less pain, and had a longer stride length. Horses supplemented with omega-3 fatty acids exhibited an overall reduction in inflammatory response to exercise.

• EIPH (exercise-induced pulmonary hemorrhage)

Studies at both Kansas State University and the University of Liege in Belgium report a combined dose of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) reduced the signs of EIPH and pulmonary inflammation in horses.

• Seasonal skin allergies

Supplementation with omega-3 rich in EPA and DHA have been shown in several studies to have a positive effect in mitigating allergic reactions, including skin allergies and seasonal pruritus (sweet itch).



• **Poor reproductive performance/unhealthy foals**

Multiple studies have reported that the omega-3 fatty acid DHA has a positive effect on both sperm output and quality; it also affects the sperm's cell membrane so it is better able to withstand cooling and freezing.

Mares consuming diets high in omega-3 have colostrum and milk with elevated levels; foals whose dams have been fed a diet rich in omega-3 have elevated serum levels of the nutrient, which results in a stronger immune system.

Research in other female animals has shown a positive effect in increasing conception rates and reducing reproductive problems; this, combined with anecdotal evidence in mares, suggests supplementation of mares' diets with omega-3 may be beneficial in increasing conception rates and reducing reproductive problems in performance horses and racehorses.

Contribute™ is the complete omega-3 fatty acid supplement:

- Guaranteed ratio of 8:1 omega-3 to omega-6 fatty acids
- 10 g of omega-3 fatty acids in each one-ounce dose
- Highly palatable and stabilized
- Provides linoleic acid and linolenic acid, plus EPA and DHA

The need to supply multiple sources of omega-3 fatty acids:

The most effective supplements contain both plant and marine sources of omega-3 fatty acids. Alpha-linolenic acid is the most common omega-3 fatty acid and is found in plants: flaxseed and linseed oil are the most concentrated best sources of this nutrient. The omega-3 fatty acids known as EPA and DHA have been identified as beneficial to the horse. These are generally found in fish oils. The shorter chained alpha-linolenic acids can be converted into the longer chained EPA and DHA; however, this process is very inefficient, hence the need for supplementation.

Dietary sources of omega-3 and omega-6 fatty acids:

- Contribute omega-3 fatty acid oil is high in a complete range of omega-3 fatty acids. Contribute has a guaranteed ratio of 8:1 omega-3 to omega-6 fatty acids.
- Forages (pasture and hay) contain more omega-3 than omega-6 fatty acids. Even though forages are low in total fat, horses consuming adequate forage (especially fresh pasture) consume a significant amount of omega-3 fatty acids.
- Flaxseed, linseed oil, and fish oil contain more omega-3 than omega-6.
- Fish oils provide EPA and DHA, longer chain omega-3 fatty acids not found in plant sources.
- Soybean and canola oils are moderately high in omega-6.
- Corn oil, sunflower oil, and safflower oils are high in omega-6, but low in omega-3.
- Cereal grains are very high in omega-6 fatty acids and contain almost no omega-3 fatty acids.



For more information on Contribute, visit KPPusa.com or call 1-800-772-1988.