



Equine News Q&A

PHOTOGRAPH | BECKY YOUNG

Omega-3 fatty acids may help equine athletes that experience exercise-induced pulmonary hemorrhage.

Q: *I own a Thoroughbred gelding, a one-time racehorse, that I have been eventing for several seasons. Since I've owned him, he has bled on two occasions after stressful cross-country rides. This has been confirmed by a veterinarian through endoscopy, though the amount of bleeding was minimal. After consultation with his peers, my veterinarian gave me the green light to continue training and eventing at the current level as long as the bleeding does not become more severe or frequent. My gelding appears to love his job and the bleeding does not seem to compromise his performance. Is there anything I can do from a nutritional standpoint to help with this problem?*

EN: Exercise-induced pulmonary hemorrhage (EIPH or bleeding) occurs when minute respiratory structures such as capillaries rupture during intense athletic effort, resulting in the presence of blood in the airways. Very few horses demonstrate overt bleeding from the nostrils during an episode of EIPH. Instead, the bleeding is much more subtle, occurring completely internally. A definitive diagnosis is made through visualization of the lower airways by endoscopy and bronchoalveolar lavage.

EIPH occurs predominantly in racing breeds, but horses involved in other disciplines are often affected. Therefore, it is not unheard of for an eventing horse, especially one with a history of racing, to be diagnosed.

Most veterinarians rely upon pharmaceuticals for treatment and prevention of EIPH. How-

ever, researchers are investigating the promising connection between omega-3 fatty acids and EIPH prevention.

Omega-3 fatty acids play a role in the flexibility of cell walls. Flexibility of the red blood cell (RBC) membranes is crucial, especially during exercise, when heart rate increases, blood thickens, and packed cell volume rises. Increased elasticity of RBCs allows easier passage through narrow blood vessels in the lungs and muscles, thereby improving blood supply and oxygen delivery.

Improved elasticity of RBCs may reduce the incidence of EIPH. Promising results in human medicine have led researchers to explore the effects of a combined dose of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), two omega-3 fatty acids, on reducing signs of EIPH and pulmonary inflammation in horses. Scientists at Kansas State University reported a reduction of EIPH in Thoroughbreds after the horses were fed a diet enriched with fish oil for 83 days.

Researchers at the University of Liege in Belgium recently reported an increase in RBC membrane fluidity in exercised horses fed a diet enriched with DHA and EPA for four weeks. Both of these studies illustrate the possibility that a diet high in omega-3 fatty acids may reduce the incidence of EIPH.

Fish oils (cold-water species) and flaxseed (linseed) oil are rich in omega-3 fatty acids. Fish oil is a direct source of EPA and DHA, whereas flaxseed contains alpha-linolenic acid, which must then be converted by the body to EPA and DHA. Though fish oils are typically not as palatable as vegetable oils to horses, new deodorization and flavoring technology has made some fish oils more palatable. 