

One of the most common concerns among horse owners is how they can improve their horse's hair coat to appear sleek and shiny. Many people already have a basic understanding that supplementing flaxseed in their horse's diet improves hair coat quality and appearance by providing essential fatty acids (omega-3 and omega-6) or EFAs. But what many people don't know are the benefits that flaxseed provides in addition to making the hair coat show quality.

Spring provides horses a chance to shed their winter hair coat, eat green grass, and bask in the sun, but many times it also means pesky insects, inevitably resulting in pruritus or itchy skin. Perhaps one of the most common causes of pruritus, are *Culicoides* insects, commonly known as midges, and what's often referred to as 'sweet itch' (1). These insects cause a type-I hypersensitivity reaction, which would be a similar reaction a human experiences after exposure to poison ivy. Pruritus causes extreme discomfort and in some cases may result in horses causing self-mutilation while trying to alleviate discomfort.

There is evidence that supplementing EFAs help prevent and treat pruritus, whether it be caused by *Culicoides* or another ailment that results in seasonal pruritus. EFAs work at the cellular level by targeting the inflammation associated with dermatitis. When a type-1 hypersensitivity reaction occurs it is the body's overreaction to a foreign stimulus. Flaxseed is one of the highest natural vegetable sources containing EFAs which ultimately shutdown the inflammatory cascade and reduce the severity of the skin's reaction. In other words, flaxseed enables immunosuppression and thereby reducing the pruritus that results from insect exposure (2).

The benefits of flaxseed supplementation is still being researched, however there is enough evidence that flaxseed supplementation should be considered for more than hair coat health. Although *Culicoides* are not as common or considered a problem in small animals, the same concept may be carried over to dogs and cats with atopic dermatitis, a skin reaction most often associated with fleas.

1. Clarke A, McKee S, O'Neill W. Flaxseed (*Linum usitatissimum*) supplementation associated with reduced skin test lesional area in horses with *Culicoides* hypersensitivity. *Can J Vet Res* 2002; 66 (4): 272-277.
2. Cunnane SC, Ganguli S, Menard C, et al. High alpha-linolenic acid flaxseed (*Linum usitatissimum*): some nutritional properties in humans. *Br J Nutr* 1993; 69:443-453.