

Q: *I have a horse in my care that is sensitive to soy, so I have been looking for a protein supplement or ration balancer that does not contain soy. Would there be any issues with feeding cottonseed meal by itself as a protein supplement or as an ingredient in a ration balancer?*

EN: Cotton is grown primarily for its fiber, yet cotton production yields two important by-products, cottonseed oil and cottonseed meal. Cottonseed meal is not commonly used as a protein source in premium horse feeds because it lacks the amino acid profile found in superior protein sources like soybean meal. Protein quality is determined by the amount and balance of amino acids that make up the protein.

The protein quality of cottonseed meal is considered low because it has about half the amount of lysine normally found in soybean meal. Lysine is essential for proper growth and a healthy immune system, so its presence is particularly critical in feeds intended for growing horses.



PHOTOGRAPH | MARK LLEWELLYN


however, that several studies involving young horses have been conducted using cottonseed meal as a protein supplement. The cottonseed meal fed in those studies had a known level of gossypol, generally less than 0.2%, and no symptoms of toxicity were noted in these trials. Modern processing methods and production of low-gossypol varieties of cotton have reduced this risk. However, before using large amounts of cottonseed meal in horse rations, horse owners should verify that the gossypol content is within an acceptable range.

Certain feed manufacturers use cottonseed meal in processed feeds. The heat treatment inherent to some processing procedures such as pelleting would most likely inactivate the gossypol, making cottonseed meal safe for inclusion in horse feeds.

High-protein alternatives to soybean and cottonseed meal exist. The gold standard for protein supplementation is milk casein but it is expensive. Canola meal is a source of good-quality protein, and it is used often by feed manufacturers. Other protein sources are sunflower meal, peanut meal, distillers grains,

brewers dried grains, linseed meal, and dehydrated alfalfa. Depending on what other raw materials

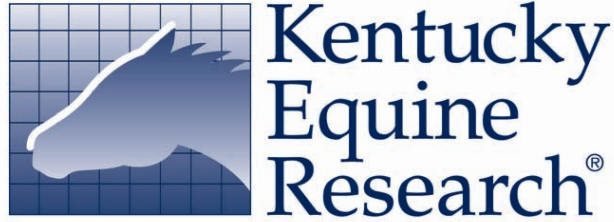
your local feed manufacturer has available, a combination of different protein sources may provide an appropriate balance of amino acids to a ration balancer.

Consultation with a knowledgeable equine nutritionist will alleviate any concerns you may have about providing your soy-sensitive horse with an adequate diet. 

Equine News Q & A

Though it is an acceptable protein source for many horses, cottonseed meal does not provide sufficient lysine for growing horses.

Thoughts are mixed as to whether unprocessed cottonseed meal should be fed to horses, as it may contain elevated amounts of gossypol, a toxin that is thought to bind iron and interfere with protein digestion. Gossypol might cause sudden death if ingested in sufficient quantities. The younger the animal, the more susceptible it is to gossypol toxicity. It should be noted,



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