

Horse News and Views



Feed tags specify the species of animals for which the feed is intended. Diets made for cattle, sheep and other ruminants should never be fed to horses. They often contain urea, other non protein nitrogen sources and, on occasion, monensin. The non protein nitrogen (NPN) in itself is not usually harmful to horses, but monensin and other ionophores are highly toxic to horses. The LD₅₀ (lethal dose for 50% of horses) for monensin is 1-2 mg/kg or 1-2 ppm. Cattle feed may contain 250-375 ppm.

Microbial organisms present in the rumen of ruminants utilize the nitrogen in urea or other non protein nitrogen-containing substances to synthesize protein, provided the animal consumes sufficient grain. The protein produced by these organisms passes from the rumen to the stomach and small intestine, where it is digested and absorbed.

In contrast, the nitrogen in NPN sources, when fed to horses, is absorbed from the small intestines and excreted in the urine. Very little NPN ever reaches the cecum and colon for microbial utilization and protein synthesis. Rations containing NPN will have lower than expected protein concentrations when fed to horses, since the nitrogen is not available for microbial protein synthesis. On the reverse side, NPN does not cause harm to the horse unless fed at extremely high concentrations that are above those normally found in cattle and sheep diets. (Ref: Lewis, LD. Feeding and Care of the Horse, second edition, Lippincott Williams & Wilkins, 1995.)

Occasionally, horses will develop hives, commonly called protein bumps, on the skin. These can be an allergic reaction of the body to foreign proteins in the feed, but are more likely the result of skin contact with some chemical in the environment, e.g., insect repellents. Insect bites also cause these hives. Generally, the hives are short lived and cause no serious health problems.

For further information, contact Dr. Bob Wright (519) 846-3412 or visit our web site: <http://www.omafra.gov.on.ca/english/livestock>



**Ontario Association
of
Equine Practitioners**

**UNIVERSITY
of GUELPH**

Horse News and Views is prepared by
Dr. Bob Wright, Animal Health and Welfare,
Ontario Ministry of Agriculture, Food and Rural Affairs,
Wellington Place, R.R. #1, Fergus, Ontario N1M 2W3
Telephone: 519-846-3412 Fax: 519-846-8101
E-mail: robert.wright@omafra.gov.on.ca

This version is available for distribution after June 1, 2006.

Please retain original format of article.