Plants Causing Photosensitivity When Dried in Hay

Krishona Martinson, University of Minnesota

There are two commonly found plants in Minnesota that can cause photosensitivity in horses (and other livestock) when dried in hay, including wild parsnip and legumes infected with Black Blotch Disease.

Wild parsnip (photo) is commonly found in fields, pastures, and on roadsides throughout Minnesota and can be found in hay harvested from roadsides or ditches. It may contain chemicals called furanocoumarins. Severe sunburn (photosensitivity) occurs in people when they come into contact with the plant and in animals when they ingest it, especially after exposure to UV light. Severe sunburn occurs on the white or other light-skinned areas, but not the black, brown, or other dark-skinned areas, because melanin in the dark skin absorbs UV light and prevents it from reacting with the furanocoumarins. Severe sunburn is reduced if livestock are shaded from UV sunlight after ingestion. All growth stages of the plant, when eaten fresh or dried in hay, are toxic. The toxic dose of wild parsnip is not known. Treatment includes removing the plant source and moving animals to an area where shade is available. Topical treatments can also be used for skin lesions.

A second plant that can cause photosensitivity is clover infected with Black Blotch Disease. This disease is not well characterized but has been reported in Minnesota. Black Blotch Disease of clovers is caused by an infestation of *Cymodothea trifolii* mold. The mold causes black blotches to occur on the underside of the leaves, usually closer to the ground where humidity is highest. Horses ingesting clover with Black Blotch Disease, whether grazed fresh or consumed in dried hay, have been known to develop photosensitivity. Research has shown photosensitive reactions can also occur in horses consuming alfalfa infected with the mold. To decrease the chance of mold development, horse owners can increase air movement by thinning clover stands or improving drainage. If owners wish to remove clover from hayfields (or pastures), there are several effective broadleaf herbicides available. As a reminder, when using herbicides, be sure to carefully follow all grazing and harvesting restrictions and other label information.