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Johnsongrass Toxicity in Horses

Johnsongrass is a warm-season perennial grass commonly found throughout Tennessee in the summer (figure 1). Horses that graze johnsongrass or other sorghum species over long periods often develop cystitis-ataxia syndrome. "Cystitis" is defined as inflammation of the urinary bladder, while "ataxia" is defined as incoordination of the muscles. The syndrome is caused by nerve damage to the spinal cord.

Cause

The toxins that cause cystitis-ataxia syndrome are thought to be b-cyanoalanine and cyanogenetic glycosides. Johnsongrass also accumulates nitrates and hydrogen cyanide (prussic acid), which are a concern for cattle (particularly during drought and after heavy frost). However, this type of acute poisoning is rare in horses. Rather, cystitis-ataxia syndrome occurs when horses consume small amounts of vegetative johnsongrass over a long period. The resulting spinal cord damage affects the bladder, kidneys and hindquarters, culminating in cystitis-ataxia syndrome.

Clinical Signs

- Incoordination (hindquarter ataxia)
- Difficulty backing up
- Paralysis of the tail and hind legs
- Stumbling or falling during exercise
- Frequent urination
- Dribbling urine
- Scalding of the hind legs from urine
- Opening and closing of the vulva in mares (when not in heat)
- Reproductive and fetal development problems
- Abortion

Treatment

Contact a veterinarian if johnsongrass toxicity is suspected. If the syndrome is caught quickly, antibiotics can be administered to treat cystitis (inflammation of the urinary bladder). Once ataxia and incoordination have developed, the damage is irreversible and the prognosis is poor.

Prevention

Minimizing johnsongrass in the diet is the key to preventing toxicity. Horses selectively graze and avoid johnsongrass if desirable forages are available. Johnsongrass in pastures can be controlled by mowing, herbicide application, and/or proper grazing management. Contact your County Extension office for more information about controlling johnsongrass.