K-STATE
Research and Extension

Prussic Acid Poisoning

Poisoning from prussic acid (Hydrocyanic acid) [HCN] after livestock ingest forages containing this compound. It interferes with their ability to use oxygen on a cellular level.

Occurrence

Often after a plant is damaged or stressed. Grazing, frost, drought, or other stressors can induce susceptible plants to produce prussic acid. It is an adaptive defense mechanism. Younger, darker green leaves are most prone to contain prussic acid (they are newest or regrowth after stress). Mature plants generally pose less of a risk than younger, more immature plants.

Symptoms

Rapid death, gasping, staggering, trembling, convulsions, bluish membranes, bright cherry red blood, and lack of blood clotting

Treatment (consult with a licensed Veterinarian for treatment)

- ★ PREVENTION
- ★ sodium based compounds

Prevention

- ➢ Only turn cattle into possible prussic acid infected areas on a full stomach. Feedstuffs high in carbohydrates have been shown to reduce formation of HCN in the rumen
- ➢ Graze suspect forages no shorter than 18-24” tall
- ➢ Don’t graze regrowth quickly after grazing
- ➢ In a rotational grazing system, don’t stay in one paddock too long

Management Procedures

- ❏ Hydrocyanic acid will dissipate in hay over time. Let suspected or tested high hay sit for 2 months or more
- ❏ Beware of grazing susceptible forages during the night when frost is a possibility
- ❏ Wait until after a hard, killing frost to graze milo stalks
- ❏ Maintain sufficient soil P & K levels
- ❏ Carefully time herbicide application and haying/grazing activity
- ❏ Do not feed freshly chopped silage for 3 weeks
- ❏ Employ heavy stocking rates (forces animals to be less picky and consume all the plant, not just young, green leaves)

General Ranking of Prussic Acid Danger Levels

High	Forage and Grain Sorghums
Moderate	Sorghum-Sudangrass Hybrids
Low	Sudangrass
Lower	Foxtail Millet and Pearl Millet
Wild Card	Choke Cherries or other wild cherries, white clover, vetch seed

Knowledge for Life

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