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Mark Keaton's Extension News: Prussic acid poisoning is a livestock threat

Forage producers must be concerned about prussic acid poisoning when grazing sorghum-sudan hybrids, Johnson grass, grain sorghum or Sudan grass.

The primary cause of prussic acid poisoning is ingestion of plants containing a potent toxin. Cyanide-producing compounds occur in the living plant and are converted to prussic acid when cells are crushed or otherwise ruptured. Prussic acid will leave these plants during the normal hay-curing process and will not present any danger from hay.

Prussic acid is liberated in the rumen of cattle, absorbed into the bloodstream and carried to body tissue, where it interferes with oxygen utilization. If the toxin is absorbed rapidly enough, the animal soon dies from respiratory paralysis. Plants of the sorghum group, Johnsongrass, Sudan grass and leaves of the wild cherry have a potential for producing toxic levels of prussic acid.

There are wide differences among varieties of sorghum-Sudan grass in the potential production of prussic acid. Pearl millet is apparently free of prussic acid.

The risk from prussic acid poisoning when grazing sorghum, Johnson grass, sorghum-Sudan hybrids or Sudan grass may be reduced by following certain management practices:

- Graze plants only when they are 18-24 inches tall. Don't be tempted by new growth to graze too early because your pastures are short.
- Do not harvest or feed drought-damaged plants in any form, regardless of height, within four days following a good rain. It is during this period of rapid growth that an accumulation of prussic acid in the young tissue and of nitrates in the stems is most likely to occur.
- Do not graze wilted plants (drought-stressed) or plants with young tillers.
- Delay feeding silage six to eight weeks following ensiling.

- Do not feed green chop that may contain prussic acid.
- Do not allow access to wild cherry leaves whether they are wilted or not. After storms, always check pastures for fallen limbs.
- Prevent selective grazing of the young regrowth, which may be highly toxic, by rotational grazing of small pastures which may be grazed down to a six-inch stubble within a 10-day period. This will mean cross-fencing to provide short-term rotational or strip grazing.
- Do not turn hungry cattle onto pasture of sorghum, sorghum-Sudan hybrid or Johnson grass. Fill them up on hay first and begin grazing in the late afternoon.
- Each time a nonkilling frost occurs on living sorghum crops, remove the cattle from these fields for fourteen days.
- Do not use frost-damaged sorghum as pasture or green chop during the first seven days after the first killing frost. Delay pasturing until at least seven days or until the frosted material is completely dried out and paper-brown colored. Do not rely on frosted material as the only source of feed. The toxin is usually dissipated within 48 hours. Do not graze at night when frost is likely.
- Hay cured properly will not present any risk from prussic acid poisoning.

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