

Frost And Johnsongrass Don't Mix

DR. JEREMY POWELL



FAYETTEVILLE, ARK.

Autumn is upon us. The air is crisp, and freezing temperatures will soon be here. With temperatures dropping, remember that frost can lead to problems with cattle grazing sudangrass, sorghum-sudangrass hybrids and grain/forage sorghum. Plants that are members of the sorghum family can produce a toxin called prussic acid (cyanide) which is very toxic to animals. This toxin occurs at elevated levels when these plants have been stressed from conditions such as frost. The toxin can be found in frosted leaves and stems within a few hours after thawing and wilting occur. Johnsongrass is a member of the sorghum family, and is commonly found in many grazing pastures throughout our state.

Prussic acid poisoning prevents the body's ability to utilize oxygen in the blood. Therefore, affected cattle may show anxiety, rapid pulse and progressive weakness. It is common to find dead animals with no previous signs of illness. Other signs may include labored breathing, muscular twitching, convulsions and sudden death due to suffocation. Ruminant animals such as cattle, goats and sheep appear to be most commonly affected, while reports of poisoning in horses are rare. Sodium-thiosulfate is the preferred treatment for prussic acid poisoning. It must be injected intravenously (IV) and very slowly. Since dosage and method of administration are critical, it is recommended to consult a veterinarian to administer the proper

treatment.

Under normal conditions, sorghum-type plants 18 to 24 inches tall are less likely to contain high concentrations of the toxin. Prussic acid concentration decreases as the plants become taller and more mature, and immature plants contain the highest levels of toxin. Toxin content of leaves is higher than that of stems, with upper leaves containing more than the lower ones.

Do not graze sorghum forage on a night when frost is likely. If frost is in the forecast and the pasture is questionable, producers should move cattle away from sorghum forages for several days following a frost. If the forages were safe to graze prior to a frost, then grazing can be reestablished 10 days following a frost. Sorghum forages require 28°F for a killing frost; however, even a "light" frost may damage plants enough to increase toxin levels.

Baling or ensiling sudangrass, sorghum-sudangrass hybrids and grain sorghum immediately following a frost is safe because the prussic acid will breakdown and dissipate during the harvesting process. Do not feed the hay for a few days after harvesting to allow the toxin to dissipate.

Most perennial forages are not a concern following a frost. Generally, forage plants do not produce toxins and can be grazed and fed to livestock safely after a frost. However, remember to take precaution with sorghum forage when frost is in the forecast. For more information about grazing management and livestock production, contact your county Extension office. Δ

DR. JEREMY POWELL: DVM, Associate Professor, University of Arkansas