

## Extension Notes

carter.ca.uky.edu

AGRICULTURE & NATURAL RESOURCES

**Rebecca Konopka**  
Carter County Extension Office

### Ways to Prevent Prussic Acid Poisoning in Livestock

Each fall, prussic acid poisoning is a real concern for Kentucky livestock producers, especially those who grow and graze their animals on sorghum-based forages like forage sorghum, sorghum-sudangrass, sudangrass and johnsongrass. By taking proper precautions, you can prevent prussic acid poisoning in your animals.

Prussic acid poisoning occurs when livestock graze sorghum-based pastures shortly after the field experiences a traumatic event, such as frost. These forages can accumulate high levels of cyanide-producing compounds in their outer cells. Further inside these plants are enzymes that can convert the compounds into the poison. Frosts cause plant cells to rupture, which allows cyanide-producing compounds and enzymes to mix. If consumed by livestock, the compounds will interfere with how their bodies use oxygen, and it can rapidly result in death. Ruminants are especially susceptible to prussic acid poisoning, because they have enzymes inside of their rumen that are also capable of converting the cyanogenic compounds into the poison.

Do not allow your animals to graze fields containing sorghum-based forages for five to seven days after a frost, even if it's patchy. If a killing frost occurs, do not allow the animals to graze the pasture at least seven days following the frost. With time, the forage can dry down and prussic acid is reduced via volatilization.

You can cut sorghum-based forages for hay after a frost, but make sure the hay is properly cured before baling. During the curing process, prussic acid volatilizes and renders the forage safe for livestock feeding.

In most cases, you can ensile sorghum forages for baleage, because the ensiling process reduces cyanide compounds in the forage. Delay feeding the baleage six to eight weeks after ensiling to allow the fermentation process to finish and toxin levels time to decrease. If your forage has particularly high toxin levels at ensiling, you should have the baleage tested before feeding it to livestock.

Regularly test your soils and apply nutrients according to recommendations. Soils that are high in nitrogen and low in potassium and phosphorus have a higher potential of causing plants to produce prussic acid.

For more information of if you need to test your forages for cyanide content, contact the Carter County office of the University of Kentucky Cooperative Extension Service. Educational programs of the Cooperative Extension Service serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expressions, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability.

#### **Upcoming Events:**

- The **Grayson Farmer's Market** is open on Saturdays from 9:00 AM until noon. The market is in the

shed behind the Extension Office. The **Olive Hill Farmer's Market** is in the Save-a-Lot parking lot and is open on Saturdays and Wednesdays at 8:00 AM and Mondays at 3:00 PM until sell out each day.

- **Northeast Area Livestock Association** – Tuesday, October 29<sup>th</sup> @ 6:00 PM; Topic – Livestock Drinking Water; Speaker: Dr. Steve Higgins, UK Director of Environmental Compliance