Several calls have come in from producers recently who have planted forage sorghum or sudangrass this summer, and want to know whether they can graze it safely. Their concerns are that the crop has accumulated nitrates or prussic acid that could be dangerous to the grazing animals. These concerns are valid, but in certain circumstances their risks will be reduced.

Nitrates can accumulate in several summer annual crops such as sorghum, sudangrass and pearl millet. Accumulation generally occurs when adequate soil nitrogen is present and a plant is stressed, such as after drought or frost. Nitrates are in higher quantities in the lower stalks of plants, and very rarely are concentrated in the leaves. Several University of Missouri Extension offices have a quick nitrate test kit that can indicate whether nitrate is present in the stalks. Based on the growing season that we have had and the quick tests that I have conducted, it is unlikely that nitrate poisoning will be an issue for grazing animals at this time.

Unlike nitrates, which accumulate in the stalks, prussic acid is in greater concentrations in the leaves of sorghum crops. Prussic acid poisoning, or cyanide poisoning, can occur during times when the plant is stressed and can result in animal death within minutes. There is no quick test to detect prussic acid in forages, and oftentimes the first sign that it may be present is dead animals. Because prussic acid accumulates in leaves, animals actively graze these parts in higher quantities, making grazing riskier. Prussic acid will disappear as forages mature or after they have died or have been harvested, meaning that it is only a concern for sorghums that are being pastured. If producers do want to allow their cattle to graze sorghum fields, they should wait until the sorghum is at least 2 feet tall, or has been killed by frost.

To reduce the risk of nitrate or prussic acid poisoning, there are several things producers can do. For nitrates, contact your local University of Missouri Extension office and ask them to conduct a free quick nitrate test. While this test won’t indicate the levels of nitrates in the plant, it will indicate whether they are present. Also, do not allow animals to graze after a frost, as both nitrate and prussic acid levels will spike. Wait 7-10 days after the frost, or until the forage is completely dried to allow animals to graze. If prussic acid is a concern, cut the forage as green chop or silage, as this will prevent the animals from selectively grazing the more toxic leaves, helping dilute the forage.

This is Andy Luke, with today’s MU Extension connection Program.

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