



Beware Toxic Forages

*Forage testing
can protect your
livestock in hot
weather months*



Protecting Animal and Human
Health through Diagnostics

- Online at tvmdl.tamu.edu
- Facebook: [facebook.com/tvmdl](https://www.facebook.com/tvmdl)
- Twitter: twitter.com/tvmdl

Accredited by the American Association of
Veterinary Laboratory Diagnosticians

Livestock producers can quickly lose valuable animals if they fail to carefully monitor prussic acid and nitrate levels in drought-stressed forages. While producers should be vigilant in learning the signs of a drought-stressed plant, you should also be aware of the toxicology testing provided by experts at the Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL).

Diagnostic testing is the best way to monitor prussic acid and nitrate levels.

Eye out for dangerous plants

Johnsongrass, a common grass in Texas, can become especially lethal during stressed conditions, like drought. Johnsongrass tends to have high levels of prussic acid when the weather turns hot or dry, or when dry Johnsongrass is exposed to a little moisture and grows very quickly. Prussic acid, also known as cyanide, builds up in stressed plants, causing acute death losses when consumed by ruminants.

As a livestock producer, it is best to beware when the Johnsongrass leaves have a ribbon-like appearance. This can be an indicator that Johnsongrass is stressed by drought or heat and may be high in prussic acid. Any of the sorghum species – such as hay grazer, sorghum sudan, grazing corn and some milo – may also contain high levels of prussic acid.





Johnsongrass, a common sight in Texas pastures, has the potential to produce deadly levels of prussic acid when stressed by drought, heat or extreme cold.

Nitrate levels in forages are also a concern. Sorghum hybrids, corn and grain sorghum may contain high levels, as may silverleaf nightshade and pigweed or careless weed. Too much nitrate affects hemoglobin oxygen binding capacity, which can be deadly. Nitrates are generally highest in fertilized pastures.

TVMDL can test forages for prussic acid and nitrate levels.

How to test forages on your land

TVMDL tests not only animal samples, but can test forages and hay for dangerous levels of prussic acid or nitrate. It is good practice to test all forages from well-used grazing land that are known to accumulate high levels of prussic acid and nitrate.

- Each fresh plant sample should include 10 to 12 plants, which should be randomly selected from the grazing area.
- Cut samples three to four inches above the ground. For a large area, divide the land into manageable sections.
- Label each sample according to the section from which it was taken, then include that information on the paperwork that accompanies the samples. Fold the samples if necessary, and place them in a garbage bag (which should be tied tightly) or into a large zip-lock baggie.
- Next, box up the bags with cool packs and send them by an overnight courier to TVMDL's College Station laboratory.
- Samples must arrive within 24 hours after they are cut. TVMDL suggests cutting samples at 3 p.m. and sending them with the last daily shipment.

Test your baled hay, too

If not tested before baling, you should use a hay probe or hay core to sample baled hay for testing.

- Take three or four probes, put those individual samples into a glass-canning jar, and submit them to the lab for testing.
- Be sure to label the jars if the samples represent hay from separate fields. If a round bale shows high prussic acid levels, let the bale cure for 30 days, re-probe it and resubmit for testing. Or, roll out the bale and air it out for five to seven days. Only re-bale the hay if it tests safe.

Take these additional steps

If you are concerned about the forage on your grazing land, you should tightly control your livestock's grazing. Consider supplementing – or replacing grazing entirely – with dry hay that has tested safe (especially when forage test values for prussic acid are dangerously high).

Take care to isolate livestock from suspected plants, including any forage that may grow on the other side of a fence or along a right-of-way. Also, take extra caution when moving cattle from one pasture to another.

Finally, be prepared to quickly treat animals that have ingested forage with high levels of prussic acid or nitrate. TVMDL suggests consulting your veterinarian for guidance on treating animals ingesting toxic forage.

If you have questions about toxic threats around your farm or ranch, call TVMDL Toxicology Section at 1.888.646.5623.