



High levels of prussic acid and nitrate can build up in drought-stressed forages.

Forages turn deadly during hot weather

Diagnostics can help to protect your livestock; here's how



Protecting Animal and Human Health through Diagnostics

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Livestock producers can quickly lose animals if they fail to carefully monitor forages during a drought. Producers should look for high levels of prussic acid and nitrate that can build up in drought-stressed forages.

The toxicology experts at the Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) offer these guidelines for concerned producers.

Watch out for dangerous plants

Johnsongrass can become especially lethal during a drought.

Typically, Johnsongrass tends to store 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 may also become high when Johnsongrass is exposed to frost.

As a livestock producer, you should beware when you see a ribbon-like appearance to Johnsongrass leaves. That's a major indicator that Johnsongrass is stressed by drought and may be hot with prussic acid.

Any of the sorghum species – such as hay grazer, sorghum sudan and some milo – may also contain high levels of prussic acid. 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.

Diagnostic testing is the best way to monitor for these conditions.

How to test forages on your land

You should test all forages on your grazing land for high levels of prussic acid and nitrate.

Each plant sample should include

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About TVMDL: The Texas A&M Veterinary Medical Diagnostic Laboratory protects animal and human health through diagnostics.

An agency of the Texas A&M University System, TVMDL comprises two full-service laboratories, in College Station and Amarillo, and two poultry laboratories, in Center and Gonzales.

TVMDL is among 12 core laboratories in the National Animal Health Laboratory Network, a group of state and regional laboratories designed to provide a nationwide surge testing, response, and recovery capacity in the event of an animal disease outbreak.

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10 to 12 plants, which should be randomly selected from a field. Cut samples about three to four inches above the ground.

For a large field, divide the land into manageable sections. Label each sample according to the section from which it was taken, and 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 at 1 Sippel Road, College Station, TX 77843.

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.

For sample submission instructions, visit http://tvmdl.tamu.edu/services_offered/forms/index_forms.php.

Test your baled hay, too

You should also probe any hay that has recently been baled, if it was not tested before baling.

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 levels of prussic acid levels, let the bale cure for 30 days, re-probe it and re-test it. Or, roll out the bale and air it out for five days, then re-bale the hay.

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 (especially when forage test values for prussic acid are dangerously high).

You should isolate your livestock from suspected plants, including any forages 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.

Treatment generally must take place within minutes to save an animal. Consult your veterinarian for guidance.

Have questions about toxic threats that may exist around your farm or ranch? Call our experts in toxicology at TVMDL. The call is toll free – (888) 646-5623.