Cyanide (Prussic acid) Field Test using Cyantesmo Paper

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1. Collect a large handful of leaves or forage material to be tested. (Note: With a cherry tree just collect the leaves; with Johnsongrass or sorghum-sudangrass collect the whole plant that the animal will likely consume. Young shoots are the most toxic).
2. Tear leaves/forage into small pieces; also crush stem plant material to cause additional plant cell injury. (Remember that you are simulating how plant material turns "mushy" after frost or what happens when an animal chews fresh leaves and stems).
3. Place the sample into a freezer zip-lock baggie (usually one gallon, but qt ok) containing a one inch strip of Cyantesmo paper. We often scotch tape the strip inside the top of the bag, but only apply tape to the end of the strip. The bag should be approximately half full. Keep the forage from directly contacting the paper strip so that you can easily evaluate the strip for color change.
4. If the sample material is dry (some plant juice should squeeze out), you will need to add about 1 tablespoon of water to the baggie or enough water so the material is damp.
5. Seal the baggie and place it in a warm area such as on the dashboard of a vehicle directly in the sun. Often just laying the baggie in direct sunlight causes enough heating for cyanide gas to released if it is present in the plant material. This field test should be performed outdoors in a well-ventilated area.
6. Wait approximately 10 minutes then evaluate the color of the test strip. Then look again in 30 minutes.
7. If the strip turns a dark blue, the sample is positive for cyanide. If the strip is the same white or very light green color as before adding the sample, the sample is negative for cyanide. Some blue color change indicates that some cyanide is present
8. This test is simply a screening test to determine whether or not cyanide can be generated from the sample being tested. The exact concentration of cyanide cannot be accurately measured using this method in the field, but a forage sample that quickly turns the strip dark blue could potentially pose a significant risk for cyanide poisoning. Any sample that causes little or no color change in the test strip after 30 minutes is likely to pose minimal risk of cyanide poisoning, as long as the sample was moist enough for the reaction to occur. (The sample material should be damp "to the touch" from plant juice or from the water you have added).

Note: Varying shades of blue can develop over time, indicating trace amounts of cyanide are being generated. Test strips should be evaluated after 30 minutes if possible for trace amounts of cyanide.

Collect random samples throughout the field to get a good representation of the field or source.

Disposal: The sealed baggie can be discarded in the garbage, or the baggie can first be opened and ventilated outdoors in a well-ventilated area. Do not breathe the fumes from the baggie, as cyanide gas is released as soon as you open it.

Cyantesmo paper can be purchased at CTL Scientific Supply Corp (item 90604) for approximately $68 for a 5 meter-long roll. The paper itself should not be handled without wearing disposable gloves.

Kentucky Ag Agents can obtain 10 one inch strips of Cyantesmo paper by contacting Dr. Ray Smith at RaySmith1@uky.edu or 859-227-9167

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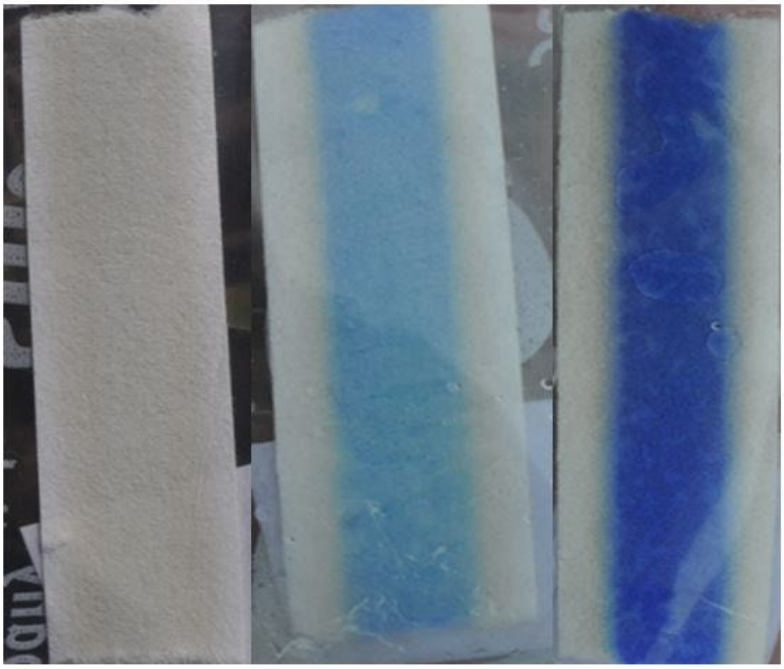

No color change:
No cyanide likely

Blue:
Positive for cyanide

Dark Blue:
Strong positive for cyanide

Plastic bag should be half full of crushed material.