

Nitrate & Prussic Acid Toxicity

Many producers grow summer annual forages for hay or silage to feed to livestock through the winter months. As we approach harvest time, it's important to remember to sample your forages and have them tested to reduce the risk of nitrate and prussic acid toxicity.

Under stressed conditions, plants accumulate nitrate in the lower stalk. The nitrate can only be reduced if the stress condition is removed and the plant begins to grow again, moving the nitrate from the stalk to the leaves. It is important to test standing forage for nitrate levels, because once a crop is cut for hay, the nitrate levels will not go down. If you are going to harvest forage that is high in nitrate, consider moving your cutter bar up to leave the lower third of the stalk standing. This will decrease the amount of nitrate in the harvested hay. Ensiling may provide up to a 50% reduction in nitrate concentration from the harvest to feeding, if done properly.

Prussic acid is an issue only in sorghum varieties. This would include, but is not limited to, forage and grain sorghums, milo, Johnsongrass, cane, sudan and sumac. Cut and dried hay or silage will not be tested for prussic acid because the curing process in hay and the fermentation process in ensiling will cause the prussic acid level to be reduced to nontoxic levels. The greatest risk of encountering prussic acid poisoning is post-harvest grazing of fields planted to a sorghum type crop. Prussic acid concentrations tend to be highest in regrowth leaf tissue in these types of plants. Consider waiting 14 days after a killing freeze before allowing cattle to free choice graze in these situations. The 2 weeks will allow the levels of prussic acid to drop, and reduce the risk of toxicity to cattle. Always test for nitrate concentration along with prussic acid if you are considering grazing, as the freeze will not affect the nitrate levels.

As always, thank you for your business. Should you have any questions about sampling forages or need help interpreting your results, don't hesitate to call the laboratory.