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TESTING AND FEEDING TOBACCO-BROWN HAY AND SILAGE

Hay baled too wet or silage chopped to dry can get excessively hot and cause certain chemical reactions to occur. These chemical reactions and the heat that produces them will darken your forage and make it smell sweet like caramel.

Livestock often find such hay or silage very palatable. But, the chemical reaction that caused this heat-damaged forage reduces its energy value and also makes some of the protein become indigestible. Unfortunately, tests for crude protein do not distinguish between regular crude protein and this heat-damaged protein. As a result, your forage test can mislead you into thinking you have more usable protein in your forage than actually is there.

If your forage test is done using NIR, heat-damaged protein may be one of the analyses reported. If the heat-damaged protein is high enough, the test also will report an adjusted crude protein that is different from the regular crude protein. However, the NIR test for heat-damage may not be accurate enough for you if your ration contains a lot of this forage and has little or no extra protein in it for your cattle.

When heat-damaged protein is suspected, request from your lab a chemical analysis for heat-damaged protein. Then use this test to correctly adjust the amount of crude protein your forage actually will provide to your animals.

Forage tests can tell us a lot about the nutrient supplying ability of our forages. But we need to make sure we conduct the right tests and then use the results wisely.

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