

## **Yield May Not Be the Only Problem with Hay Harvested During Drought**

Drought has definitely taken a toll on this year's hay crop. Despite yield losses, additional production losses may loom over this winter feeding season unless preparations for feeding drought-stressed hay crops have been made.

A routine forage analysis can help establish any potential problems that could lead to cow body condition losses or even death losses. Major problems that come with drought are accumulation of nitrates or prussic acid in Johnson grass, sudan grass and sorghum-sudan hybrids. Nitrates, unlike prussic acid, do not break down when harvested for hay. Even grasses such as Bermuda grass can be excessively high in nitrates if a high rate of fertilizer is applied without adequate rainfall to stimulate enough plant growth to convert the nitrates into protein.

Nitrate-nitrogen levels above 700 ppm can be detrimental to herd productivity. Forty to sixty percent of Johnson grass and sorghum-sudan hybrids tested at the UA diagnostic lab exceed 700 ppm nitrate-nitrogen. Levels above 700 ppm are not considered safe for pregnant animals, and levels above 2100 ppm may be lethal. A nitrate test costs \$8 per sample and would be a wise investment to safeguard the herd against any potential nitrate toxicity problems. In addition, the county Extension office can offer guidelines for feeding high nitrate hay.

Prussic acid can also cause problems in hay that was not cured completely prior to harvest. Johnson grass, sudan grass and sorghum-sudan hybrids take longer to cure without the use of a mower-conditioner. Although prussic acid will break down within hay, prussic acid problems were observed in a herd where hay was harvested with excessive moisture. Prussic acid is also a concern at killing frost. Plants that are susceptible to prussic acid accumulation should not be grazed after a killing frost. Delay grazing until plants are brown and dry.

Another test to consider is a routine forage test. This test costs \$18 per sample and provides details related to protein and energy content. In a typical growing season, 70% of hays produced in Arkansas are energy deficient, and 40% are protein deficient for lactating beef cows. Delayed harvests in hopes of greater yields and harvesting crop residues or mature forage crops will result in low-quality hay this winter. A forage test will help determine what additional nutrients are necessary to provide the herd with a balanced diet this winter.

For more detailed information related to hay quality and analysis, contact your local county Extension office.