

# AGRICULTURAL GUIDE

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Forages



The Mizzou Mobile Forage Testing Lab makes stops throughout the state to help farmers evaluate their forage

## The Mizzou Mobile Forage Testing Lab

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Missouri forage and livestock producers now have access to the Mizzou Mobile Forage Testing Laboratory. It contains the most modern forage testing equipment that can give accurate test results in less than 15 minutes. The equipment is mounted in a climate-controlled mobile van that is accessible to farmers throughout the state. The lab will be making scheduled stops to assist farmers in evaluating forage quality. University of Missouri Extension Agronomy personnel will operate it and handle the scheduling. Contact your local Extension office to find out when the unit will be in your area.

The program offers a broad range of educational and financial opportunities to Missouri agriculture. Test information can help farmers in balancing ra-

tions or in marketing hay. Improvements in livestock ration formulations can help save feed costs or increase animal performance. Livestock producers can use the test information to develop feed inventories based on quality and quantity of forages available. A producer can also evaluate his forage program as to the species and management practices (growing, harvesting and storage) that contribute most to high-quality forages and profitability. Fast, accurate test results can help determine equitable prices for forages, thus promote hay marketing in the state. A fast, on-the-spot forage testing program will be extremely useful at hay shows, and it will give support to Extension's educational efforts to promote the production of quality forages.

The Missouri mobile testing unit is similar to units which are giving educational support to forage and livestock producers in other states. A survey of Wisconsin dairymen who are using forage analyses found that more than 60 percent of the respondents reduced their feed costs. The group reported an average annual profit increase of \$20 per cow. One Minnesota Extension dairy specialist said, "Almost all farmers who made use of forage test results have reduced feed costs or improved milk production."

### How Did It Come About?

Funding for the forage testing program came from a special grant from the Missouri General Assembly. Those playing a key role in recognizing the need include state legislators, the Missouri Department of Agriculture, agricultural producers and University of Missouri personnel.

### How Does It Work?

Near Infrared Reflectance (NIR) spectroscopy is used instead of traditional wet chemistry methods to measure the major chemical elements in forages.

Test results are obtained when the computer-assisted instrument bounces light beams off the specially prepared forage sample and measures the wave lengths and intensities of the reflected light. Information about the unknown sample is obtained by comparing its reflectance to that of samples whose composition has been determined by standard analyses techniques.

The analytical instruments in the testing lab are referred to as the NIR unit. NIR provides an accurate, fast, easy, and inexpensive method for forage quality analysis. The use of NIR to measure the major chemical elements in forages was first used successfully in the mid70's.



The NIR van contains all the necessities for testing forage quality, including a microwave oven for drying samples, an NIR forage analyzer, and a microcomputer which compares sample's results against conventionally tested samples.

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