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Forage Tests Take Guesswork Out of Nutrition Needs

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During the late fall and winter, perennial grass pastures such as bahiagrass become dormant. After frost their feeding value for cattle is limited. This period of reduced pasture growth and potentially low feeding value coincide with the time of year when cows and developing heifers have high nutrient requirements. Lactating cows and heifers that are being developed to breed as yearlings require a diet that is 10 to 12 percent crude protein and 55 to 65 percent total digestible nutrients (TDN). The key is to combine available pasture with supplements such as hay, molasses mixtures or dry feed supplements to meet the cattle's nutrient requirements.

Forage testing is designed to provide livestock producers with estimates of the feeding value of their forages. Before proper feeding programs can be developed, feeding value of the forage portion of the diet should be known. In this way, appropriate type and level of supplements can be determined for given classes of cattle. As an example, in some cases bahiagrass pasture can have adequate protein concentration for various classes of cattle in the late fall and early winter. If through forage testing, the pasture has been analyzed to have adequate protein, and adequate pasture availability exists, then only small amounts of an energy supplement may be needed compared to an energy/protein supplement. As pastures become depleted and hay is needed, hays should be analyzed for feeding value so that proper supplements can be purchased and the level of supplement feeding can be determined.

The purpose of the Florida Forage Testing Program is to provide rapid and accurate quality analysis of forage samples for livestock producers to assist in planning balanced and economical feeding programs. Hay, silage and haylage from tropical grasses such as bermudagrass, stargrass, limpograss (*Hermarthria*), digitgrass and bahiagrass can be

analyzed. Pasture samples from the above silage can also be analyzed. Legumes such as alfalfa and perennial peanut hay and silage samples can be analyzed.

Forage samples should be submitted in a forage testing kit. Forage testing kits can be obtained from county extension agents. Each kit contains a plastic bag, a sample information sheet and a cloth bag to mail the sample. It is important that the sample submitted for analysis be truly representative of the overall forage available. For round hay bales, the outer weathered portion should be pushed back, and a sample of un-weathered hay should be placed into the plastic bag, and then placed into the cloth bag. The sample information sheet should be completed and placed into the envelope which is attached to the cloth bag. A fee of \$8 per sample should also be included. The sample should be sent to: Agricultural Research and Education Center, 3401 Experiment Station, Ona 33865.

Upon arrival at the research center, the sample is dried to determine moisture content. The sample is then ground and placed into the near infrared reflectance spectrophotometer (NIRS) for forage quality analysis. The NIRS machine is used so that results can be obtained rapidly. Results are returned within two to four days after the sample arrives at the laboratory.

Results include moisture content, crude protein concentration, total digestible nutrients (TDN), neutral detergent fiber (NDF) concentration and a quality index. The NDF and TDN results are used to develop the quality index which is an estimate of the intake potential of the forage.