

# MEASURE AND MANAGE

## Growing Degree Days (GDD) And Scissors Cuts Evaluation

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One of the most important influences on forage quality is plant maturity. Harvesting at the “proper time” maximizes nutritional quality which can improve production or performance and reduce feed input costs.

While there are several methods in use for evaluating the quality of forage stands, Agri-Food Laboratories has used actual scissors cuts analysis for the last several years. This involves tracking “Growing Degree Days” (similar to heat units) and sampling several fields of alfalfa and/or grass for analysis. From the analyses, changes in forage quality can be correlated to growing degree accumulation.

Sampling commences on approximately May 1<sup>st</sup>, and samples are taken at least twice per week until the stand is harvested. Growing Degree Days are recorded daily. In order to determine the rates of change of the nutritional components, it is necessary to take samples from the same vicinity within the fields (not from headlands, tracked or damaged areas).

Samples are usually taken in the morning and are in the lab within an hour of sampling. Alfalfa and grass are sorted and any foreign material is discarded. The alfalfa and grass portions are analyzed separately for protein, ADF, NDF, lignin, starch and sugar. The information associated with quality changes and growing degrees can be found on the Agri-Food Laboratories web site, [www.agtest.com](http://www.agtest.com) as well as our GDD tracking and Value Estimator tool that allows you to estimate the nutritional value of your forage based solely on GDD.

### **NEW for 2007**

A new feature for the 2007 harvest will be the Rapid Scissors Cut Evaluation, offered by Agri-Food Laboratories. This is available to assess the quality of the forage crop before harvesting.

Sampling for this purpose should take place near the anticipated harvest date. This can be monitored by using the Growing Degree Day Evaluator on Agri-Food’s web site.

It is the overall forage quality of the entire field that is of interest, so sampling can be conducted similarly to soil sampling. Multiple samples are taken at various locations over

the field and combined into one sample. A “grab” sample from four to six sites over the field is cut at the approximate harvest height. If there are obvious areas of the field that are significantly different, samples from these areas can be included in roughly the same ratio as exists in the field, or sampled separately. (Separate sampling is discouraged unless these areas are quite large, since the entire field will be harvested at the same time.)

If the cuttings are taken early in the day, and will be in transit to the lab for an extended period of time, remove as much moisture as possible by gently shaking or patting with a towel. The samples should be delivered to the lab as soon as possible.

Submission forms should accompany these samples. The Rapid Scissors Cut Evaluation form can be downloaded from the website or received from the lab.

Processing of these samples will begin as soon as they are received. Results can be expected the next day by fax or email.

These samples will be analyzed by NIR as mixed forages. i.e. the grass and alfalfa will not be sorted, so samples should be as representative of the field composition as is practical.

From the information associated with these samples, depending on the results, another sample can be submitted at a later date, or using the data obtained and monitoring changes in GDDs and Agri-Food’s scissors cuts results, a harvest plan can be initiated.

By using the benefit of this service (and with good weather) it is our goal to aid in the production of high quality forages.