Leaf Tissue Nutrient Testing

I have discussed the information provided by leaf tissue nutrient testing in my newspaper article in the past, but each year I get calls from individuals interested in learning more about the procedure and interpreting the results. The leaf tissue test results provide useful information, but only if the correct procedure is used to collect the samples. Many times samples collected from plants under environmental stress or at an improper growth stage may yield results which do not reveal the whole story.

Leaf tissue nutrient analysis is as simple as collecting leaves and delivering them to a lab, but it is merely a tool to evaluate a plant nutritional problem or to monitor the effectiveness of a soil fertility program. Tissue sampling is not a substitute for soil testing; it is most effectively used in conjunction with soil testing. Many factors beyond soil nutrient levels affect plant nutrient uptake. Soil pH, compaction, herbicide or insect damage, too wet, too dry, and temperature all affect nutrient uptake by plants. Adding more of the deficient nutrient may not solve the problem. The source of the symptoms must be identified so submitting a soil test collected in the same area where the plant tissue was sampled is a necessary component of plant tissue nutrient testing.

For diagnostic purposes plant samples can be collected any time after emergence until the beginning of flowering. At flowering the plant changes from the vegetative to reproductive stage
and nutrients move into the seed or fruit. Sampling at the latest acceptable stage, which is initial flowering, gives the best picture of the general nutritional status of the plant because most of the nutrient uptake has occurred. If the crop exhibits no deficiencies and you wish to use the plant tissue test as a soil fertility program evaluation tool, this is the stage to test.

To accurately sample the field, randomly collect plant samples as you would for a soil fertility test. If there is an area exhibiting deficiencies, collect samples from the deficient areas as well as areas where the crop is growing well for comparison. Place samples in a paper bag, not plastic. For corn 4 inches in height or less, collect the entire plant. For corn in the vegetative stages collect the upper most fully developed leaf. If the corn is tasseling, collect the ear leaf. For soybeans, vegetative or flowering, collect the uppermost mature trifoliate. For tobacco, collect the uppermost mature leaf.

The test results will indicate if the nutrient levels are deficient, sufficient, or excessive and while the University does not provide tissue testing services, most local labs provide uniform results, meaning a nutrient level considered sufficient with the private test lab would also be considered sufficient with the University interpretation. The University has a plant tissue analysis publication, AGR-92 available online or at the Extension office.

**Applied Master Cattleman Field Day**

A beef cattle field day is planned for June 23 beginning at 5:30 p.m. at the Bob Hodges farm in northern Ohio County at 1320 Barnett’s Creek Road, Utica. The event is an applied component of the Master Cattleman program and will provide information on using some of the advanced tools for making breeding stock selection decisions. The program will discuss
practices which are becoming more common such as selection indexes and marker assisted selection with DNA technology.

Attendees will also learn what to look for when evaluating cows and bulls. Structural soundness is particularly important for productive grazing and pasture breeding. Sound hips, hocks, shoulders, and feet are key to herd longevity.

The evening will begin at 5:30 with a meal. Call the Ohio County Cooperative Extension Office at 270-298-7441 if you plan to attend.

Cloverbud 4-H Camp

Cloverbud 4-H Camp will be July 22-24 at the West Kentucky 4-H Camp at Dawson Springs. This camp for youth ages 5-8 years old was created to introduce kids to 4-H camp and to spend some time with family before they return to school. It is a great way for young campers to enjoy their first overnight camping experience. Cost is $100 per child and $80 for an accompanying adult. Activities include canoeing, cooking, fishing, archery, swimming, recreation, and nature. Call the Extension office at 270-685-8480 for more information.

Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin.