



TISSUE TEST TO IDENTIFY NUTRIENT LEVELS

PLANT TISSUE ANALYSIS DETERMINES NUTRIENT CONCENTRATIONS

Plant tissue analysis complements a proven soil testing plan and helps identify ways to use nutrients more efficiently. Unseen nutrient imbalances or toxicities can be identified, as well. It also measures the efficacy of fertilization and nutrient programs, as well as the levels of nutrients such as, copper, iron, sulfur and others not observed in routine soil tests.

Plant nutrient levels vary depending on the stage of maturity, the part(s) sampled, hybrid or variety and environmental conditions. Sampling earlier in the season identifies deficiencies in time to make corrective nutrient applications, if needed, to help reach yield goals and manage economic risks.

Plant tissue analysis is a proven diagnostic tool to help compare nutritional variances between normal and abnormal sections of fields. No matter the crop, plant tissue analysis is worthwhile to help determine nutrient needs. As crop values continue to rise, tools such as this and soil sampling are essential to fiscal and yield success.

USE ANALYTICS TO PLAN NUTRIENT MANAGEMENT

Plant tissue analysis, put simply, is taking a snapshot of the nutrient concentration of a plant part at some point in time. Plant tissue analysis has two primary uses. One is diagnostic. The other is monitoring.

With monitoring, growers aim to get a trend over time and use that trend provided by tissue concentrations of nutrients to evaluate overall health. The diagnostic or troubleshooting approach determines if there's a problem or not. If there is, the analysis is the beginning of the reasoning to take corrective action.

Standard values, often established by universities, for each crop and each region guide the diagnosis. These values state that at maturity stage "A," plant tissue nutrient levels should be at stage "A", as well. If tissue levels don't meet those values, it could be that something in the soil supply has been depleted. If it's early enough in the season, it's possible more nutrients could be applied in a foliar application.

4 This information is comprised of excerpts from The Fertilizer Institute. For the full article visit <http://www.nutrientstewardship.com/implement-4rs/article/plant-tissue-analysis-tells-story>.

TAKE SAMPLES CORRECTLY

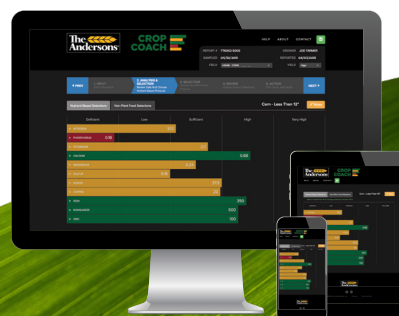
Once you start taking samples, it's critical to get the right plant part at the right growth stage. A general rule of thumb is to use the most recently matured, fully developed leaf for more mature plants. For young plants, you can generally use the entire plant. For high-value crops, the petiole is used.

The most recent mature leaf (MRML) is the first fully expanded leaf below the growing point. It is neither dull from age nor shiny green from immaturity. For some crops the MRML is a compound leaf. For example, the MRML on soybeans and strawberries is a trifoliate compound leaf, or three leaflets comprising one leaf. The petiole is the slender stalk attaching the leaf to the stem.

For a lab to get a solid analysis, 15 to 30 leaves, or roughly a quart of sample material is needed. Shipping is important. Don't pack them too tightly or take too long to ship to the lab, especially in warmer months. Get samples to the lab as quickly as possible. If you're taking the samples yourself, check with your lab to be certain of the most appropriate shipping method. Always use a shipper that guarantees delivery by a certain time.



To find out how you can use your tissue analyses to correct nutrient deficiencies with customized product recommendations, visit CropCoach.com.



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