

ANALYTICAL TESTING – AN IMPORTANT TOOL FOR GROWERS

Premier Tech Growers & Consumers offers analytical testing of water, growing medium, plant tissue and fertilizer solution to our valued customers and growers. Samples are processed in a laboratory to obtain nutrient element status of plants and/or growing medium-plant environment. Testing is not only important for the customer, but also users of PRO-MIX to be sure that growers achieve the best possible results.

Purpose: Analytical testing is a useful tool to address the most common cause of greenhouse crop problems, improper plant nutrition. Understanding the nutrient status of crops and inputs allows growers to adjust fertilizer applications to maximize plant growth. Growers can use test results to diagnose plant disorders and to avoid future crop problems.

Where Do We Test: For US customers, samples are tested by independent laboratories that we partner with or samples can be processed at our own laboratory in Rivière-du-Loup, QC. Our standard cost for testing is \$40.00 per sample, however we periodically offer free tests for PRO-MIX customers.

Water Test: Analytical testing is used to detect elemental levels of water and is essential to design a proper fertilizer program. For example, water alkalinity directly impacts the pH of the growing medium. Alkalinity is not pH but a measure of the “dissolved limestone content” and has the ability to increase the pH of the growing medium overtime. Potentially acidic fertilizers are used to counteract the effects of water alkalinity. However, when alkalinity level of water is excessive, acid is often injected into the irrigation system to neutralize some of the alkalinity and to keep growing medium pH from rising.

Water in almost all cases, does not contain sufficient plant nutrients. Fertilizer adds nutrients that are missing from the water and creates competition for those that are not needed. Typically, calcium, magnesium and sulfate are not provided by most fertilizers and low content in water influences what fertilizers to use. Water often contains waste ions (sodium, chloride, and fluoride) that can be problematic for plants if present in high levels. Excess waste ions and high salt levels can accumulate in growing media; therefore, growers should frequently leach crops or use of reverse osmosis to purify irrigation water.

Fertilizer Solution Test: This test measures fertilizer element levels and is used to verify fertilizer application rate.

Growing Medium Test: This test measures the pH, soluble salts and individual nutrients retained in the growing medium. The pH of the growing medium influences the availability of all nutrients. If the pH of the growing medium is outside the ideal range of pH 5.5–6.0, an adjustment to the fertility program is needed by the grower to counteract undesired pH movement. This is important for micronutrient availability since they are greatly impacted by pH. Macronutrient availability is less influenced by growing medium pH. A deficiency is easily corrected with fertilizer applications and excessive levels can be leached with plain water.

Tissue Testing: Tissue analysis is used to confirm what elements have been taken up the plant and to troubleshoot nutrient deficiencies or toxicities. Tissue testing provides a historical view of plant nutrient uptake. When used in conjunction with a media analysis, both tests provide two reference points in time for plant nutrition. To diagnose crop problems, provide tissue and media samples from normal and abnormal plants for comparison.

With all analytical testing, your Grower Services team is available for interpretation of results and to provide recommendations for our customers to assist with their growing needs.