



# WARD Letter

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## The ABC's of Plant Analysis

Plant analysis is used to evaluate how well plant nutrients in the soil are taken up by the plant. As higher yields are achieved, plant analysis becomes a method to evaluate and refine nutrient uptake and can be used to diagnose problems with crop growth. Plant analysis may also be used to monitor nutrient levels in the crop to evaluate how well the soil is supplying needed nutrients.

If plants are sampled early in the growing season and a deficiency is determined, there will be time to apply the needed nutrient as a foliar or as a top-dress application. If samples are taken to diagnose a problem, it is suggested that both a good sample and abnormal sample be collected for comparison purposes. The comparison can be helpful in deciding what is needed to correct the deficiency.

Care must be taken when sampling plants that are under nutrient stress. Plants under long periods of nutrient stress tend to develop unusual nutrient concentrations. For best results, plant samples should be taken as soon as the stress is observed. It is best to sample the outer edge of the stress area to avoid the unusual nutrient concentration present from continued nutrient stress.

Proper sampling is very important for correct interpretation of the analysis. Whole corn plant samples should be taken when corn is in the 3 to 4 leaf stage by cutting the plants one inch above the soil surface. A leaf stage is defined as a plant that has developed a collar or a condensed tissue between the blade and sheath. Three-leaf stage means that there are three leaves on the corn plant where the collar is visible not including leaves in the whorl. At leaf stage 5 or greater the top leaf with a collar should be sampled. Strive to collect 15 leaves (plants in 3-4 leaf stage) for each sample noting the

correct number of leaves so the laboratory may make the correct interpretation. As corn growth continues, several of the lower leaves will be lost but must be counted to determine the correct growth stage. Once the tassel appears, the ear leaf should be taken for the sample.

Soybean sampling before initial bloom should include the whole plant, cutting the plants off one inch above the soil surface. During the bloom stage, the top most recently developed trifoliate leaves make up the appropriate sample. Take small plants or trifoliates from 15 plants for a proper sample.

Whole wheat samples should be taken at any growth stage cutting the small plant off one inch above the soil surface. Once the joint stage has been reached, cut the samples off two inches above the surface.

Place plant samples of all types in paper bags for submitting to Ward Laboratories for analysis. Do not place in plastic bags. It is best to send the samples as soon as they are taken. Samples do not need to be chilled for shipping.

To order supplies go to  
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