

TECHNICAL NOTES

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Critical Nutrient Ranges in Northwest Crops (WREP Publication 43)

“Along with soil testing, plant analysis has become a valuable and important tool with respect to soil fertility and plant nutrition. Its use as an on-farm tool for improved plant nutrition has greatly increased in recent years in the Pacific Northwest and throughout the United States. The primary function of soil testing is to predict fertilizer needs. For annual crops, the primary function of plant analysis is to diagnose problems or monitor the nutrient analysis during the growing season [to fine-tune fertilizer application needs]. In some cases, diagnosis can be made early enough to correct deficiencies during the current season. A good example is the monitoring of nitrate-N in potato petioles and the application of required N through sprinkler systems. Plant analysis can be useful for the prediction of nutrient needs in perennial crops, usually for the year following the time of sampling and analysis.”

The Critical Nutrient Range (CNR) is “that range of concentrations above which we are reasonably sure the crop is amply supplied and below which we are reasonably sure the crop is deficient. Thus, within the CNR is a range of uncertainty.”

The Western Regional Extension Publication entitled “Critical Nutrient Ranges in Northwest Crops” provides useful information on critical nutrient concentrations, at various crop stages, for a variety of crops grown in Idaho. The publication discusses the importance of timing of sampling, the choice of tissues to be sampled and proper handling of samples. The information provided in this publication can be used to evaluate crop tissue tests to determine if additional nutrient applications are needed for crop productivity or quality enhancement.

Each Field Office is being provided with a hardcopy of the publication. However, it is no longer being printed, so a link to the electronic version is provided, as an attachment to the Technical Note, on the Idaho NRCS Technical Resources webpage at <http://www.id.nrcs.usda.gov/technical/agronomy.html>.