

Sample Preparation for Portable XRF Analysis of Plant Samples

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Portable XRF enables rapid measurement of elements in plant samples. Little, if anything, needs to be done to the samples for qualitative or comparative analysis; however, quantitative analysis requires plants to be prepared optimally. Plant samples should be dried, crushed into a fine powder, homogenized, and packed tightly into an XRF sample cup for accurate and reproducible results. Such practices enable unknown plant samples to be correctly analyzed using a calibration based on a similar matrix with the same sample preparation procedures.

This presentation illustrates sample preparation requirements for accurate and reproducible portable XRF quantitative analysis of elemental nutrients in plant materials. It provides data showing the impact these procedures have on results, with particular attention to moisture content.