

EVALUATION OF RAPID DETERMINATION OF PHOSPHORUS IN SOILS BY NIR SPECTROSCOPY

Kwan-Shig Ryu^{*1}, Book-Jin Kim² and Jin-Sook Park¹

¹*Dept. of Agricultural Chemistry, Taegu University, Korea*

²*Dept. of Agronomy, Yeungnam University, Korea*

The purpose of this research is to evaluate rapid determination of phosphorus in soils using NIR spectroscopy. The soil samples from the fields subject to different crops and land-use in Kyeongbook province, Korea were used to make the calibration and validation of the calibration set estimating phosphorus in soil. The NIR reflectance was scanned at 2nm intervals from 1100 to 2500nm with an InfraAlyzer 500 (Bran+Luebbe Co.).

Various regression analyses were used to evaluate a NIRS method for determination of phosphorus in the soil. NIR absorption approach requires many soil samples to obtain optimal prediction. Applicability of NIR spectra technique may allow for the analysis of available soil phosphorus rapidly as well as total component within a few seconds.