

Vegetative Assessment of Phosphorus and Nitrogen Status in Corn using Remote Sensing. (S04-ciganda173035-Poster)

Authors:

- V.S.Ciganda - *University of Nebraska-Lincoln.*
- J.S.Schepers - *USDA-ARS, Lincoln, NE.*

Abstract:

Assess spatial variability of soil P and N is not only costly but also a time consuming processes. Remote sensing measurements of canopy spectral reflectance can provide a rapid and non-destructive method for assessing plant-canopy nutrient status. The main objective of this research was to identify specific wavelengths or combinations of them sensitive to P and N deficiencies in plant during the early corn growth. Two corn experiments were planted in 2001 and 2002 over an old manure experiment in which important soil P content differences were expected among the residual treatments. Reflectance measurements were recorded from canopy at different growth stages (V3 to V7), with two four-narrow-band field sensors (sensor 1: 415, 440, 460 and 550nm; sensor 2: 600, 632, 680 and 800nm). An hyperspectral sensor (300 to 900nm) was used to record the reflectance from collar leaves at vegetative growth stages V3 and V5. The sensitivity of different vegetation indices and individual wavelengths to P and N stress will be discussed.

Corresponding Author Information:

Veronica Ciganda	phone: (402) 472 1594
University of Nebraska-Lincoln	e-mail: verociga@unlserve.unl.edu
119 Keim Hall	
Lincoln, NE 68583-0915	

Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 9:00-11:00 am
Poster Board Number: 1526

Keywords:

Remote sensing, plant nutrient status, corn