# Aerial Color Infrared Photography for In-Season Nitrogen Application Decisions for Corn in the Southeast. (A03sripada150357-Poster)

Authors:

- R.P.Sripada\* North Carolina State University, Raleigh, NC
- R.W.Heiniger North Carolina State University, Raleigh, NC
- J.G.White North Carolina State University, Raleigh, NC
- C.R.Crozier North Carolina State University, Raleigh, NC

- R.Weisz North Carolina State University, Raleigh, NC
- J.M.Burleson North Carolina State University, Raleigh, NC

### Abstract:

There is an increasing need for fast and accurate methods to determine sitespecific in-season N requirements for corn. The objective of this study was to develop a methodology for predicting the in-season N requirements for corn at the V7 and VT growth stages using aerial color infrared photography. Field studies were conducted at six, two and three locations during the 2000, 2001, and 2002 growing seasons, respectively. The treatments consisted of various N rates applied at planting, V7, and VT. Aerial color infrared photographs were taken at all sites at V7 and VT. Yield responded to increasing N applied prior to and at V7 and VT. Results from the initial analysis of the 2000 and 2001 data indicate that better prediction of economic optimum N can be obtained with spectral indices measured relative to high N calibration strips than with individual spectral bands or absolute indices measured at VT. The Green Difference Vegetation Index (GDVI) calculated relative to high N calibration strips was the best predictor of optimum sidedress N at VT with an R2 = 0.74. These and the results at V7 will be discussed.

#### **Corresponding Author Information:**

Ravi Sripada North Carolina State University Campus Box 7619, Dept od Soil Science, NCSU Raleigh, NC 27695 phone: 919-515-5646 e-mail: rpsripad@unity.ncsu.edu

### **Presentation Information:**

Presentation Date: Monday, November 11, 2002 Presentation Time: 2:00-4:00 pm Poster Board Number: 527

## **Keywords:**

CIR Photography, Digital Counts, Vegetation Indices