In-field Variation for Soybean Emergence and Development. (C03-wiebold105828-Poster)

Authors:

- J.A.Tremain* University of Missouri
- T.Belt University of Missouri
- W.J.Wiebold University of Missouri
- J.W.Hager University of Missouri

Abstract:

Variation in soil and landscape characteristics may affect soybean emergence. Our objective was to determine if soybean emergence percentage can be predicted using soil electrical conductivity (EC) and digital elevation model data. The experiment was conducted near Columbia, MO on a Mexico silt loam soil in 2001. A randomized complete block design was used with factorial arrangements of two planting dates and two seed treatments. Four sub-samples (3m X 3 m) were randomly placed in each treatment combination. Planting dates were 10 May and 13 June and seed treatments were with and without a fungicide. Soil EC was measured with a Veris 3100 and a Geonics EM-38. Topography data were collected with a Real Time Kinematic GPS system. Days after planting was recorded when at least 10 plants per row had emerged. Stand counts were taken on that date and just before harvest. Due to more favorable weather, 13 June planting date produced greater initial and final stands than the 10 May planting date. All EC measurements were positively associated with these higher stands. Higher clay contents associated with high EC probably increased water holding capacity and this aided emergence during the warmer and dryer weather of the 13 June planting date.

Corresponding Author Information:

William Wiebold University of Missouri 214 Waters Hall Columbia, MO 65211 phone: 573-882-2801 fax: 573-884-4317 e-mail: wieboldw@missouri.edu

Presentation Information:

Presentation Date: Wednesday, November 13, 2002 Presentation Time: 4:00-6:00 pm Poster Board Number: 1017

Keywords:

soybean, growth and development, precision agriculture