Characterizing Weed Distribution and Abundance from Previously Sampled Data. (C03-jones124157-Poster)

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Abstract:

Prediction and characterization of weed distribution and abundance provides the needed data to implement site-specific management practices as well as to assess the performance of weed management practices. The objectives of this research were to test a method of predicting the spatial distribution of weed populations; and to determine if repeated observations over a period of four years provide a stronger indicator of weed population distribution and density than using only the previous year's information. Mean weights of evidence (WOE) is a quantitative method for combining evidence in support of a hypothesis, and was used for these analyses. Evidence consists of a set of exploration datasets and weights are estimated from the measured association between known occurrences and the values to be used as predictors. A variety of soil and landscape variables were combined with spatially explicit weed population sample data collected from 1994 to 1997 in Shelton, Nebraska. Preliminary results indicate the WOE procedure enhanced prediction accuracy over estimates based on a single year, and may be useful for updating weed map data accumulated over time.

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Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1213

Keywords:

weed ecology, spatial data