Forecasting Corn Yield for the Corn Belt States Using a Water Supply and Demand Model. (A03-runge162828-Poster)

Authors:

- E.C.A.Runge* - *Texas AM University, Soil and Crop Sciences Dept.*
- J.G.Benci - *Consultant, Winnipeg, Manitoba*
- C.C.House - *National Agr. Statistics Service-USDA, Fairfax, VA*

Abstract:

The effect of annual weather variation during the growing season on corn yield can be large. Model projections for 2002 yield and production are compared to 2001. Comparisons are made on a weekly basis during the growing season for the period 6 weeks before to 4 weeks after anthesis. Estimated changes in corn production resulting from weekly weather variability are summarized for Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota and Wisconsin. Model results for states are summarized from county yield and production estimates. Weather data are projected for each county mid-point from available weather data. The model requires input of plant available stored soil moisture (PASSM), maximum temperature and precipitation. PASSM was determined for each county from estimated average soil conditions and rainfall prior to planting. Water from irrigation (KS and NE) is added to weekly rainfall. In 2001 and 2002, 2.5 cm and 3.3 cm per week was added, respectively. Model results for 2001 versus 2002 are substantially different for much of the Corn Belt. Changes in yield and production are progressively captured during the growing season.

Corresponding Author Information:

Edward Runge
Texas A and M University
Soil and Crop Sciences
College Station, TX 77843-2474

phone: 979 845-3066
fax: 979 845-0456
e-mail: e-runge@tamu.edu

Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 1:00-3:00 pm
Poster Board Number: 638

Keywords:
Corn Yield Prediction, Corn Production, Modeling corn yield, Forecasting corn production