November 1981

An X-Y-Plotter-Based Technique for Measuring Root Length

Wallace Wilhelm
University of Nebraska - Lincoln, wwilhelm1@unl.edu

J. M. Norman

J. R. Ellis

R. L. Newell

Follow this and additional works at: http://digitalcommons.unl.edu/usdaarsfacpub

Part of the Agricultural Science Commons

http://digitalcommons.unl.edu/usdaarsfacpub/140

This Article is brought to you for free and open access by the U.S. Department of Agriculture: Agricultural Research Service, Lincoln, Nebraska at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Publications from USDA-ARS / UNL Faculty by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

For 3 years, yields were significantly influenced by amount of crop residue on the soil surface. Where surface crop residues were completely removed, average yields of corn, sorghum, and soybeans were 24, 6, and 27% lower than where residues were not removed. Removal of 50% surface crop residues had little or no effect on yields. Yield reductions were directly related to higher soil and plant canopy temperatures and lower soil water contents where surface crop residues were removed.