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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

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Wilhelm, Wallace; Norman, J. M.; Ellis, J. R.; and Newell, R. L., "An X-Y-Plotter-Based Technique for Measuring Root Length" (1981). *Publications from USDA-ARS / UNL Faculty*. 140.
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A G R O N O M Y

A B S T R A C T S

1981 Annual Meetings

AMERICAN SOCIETY OF AGRONOMY

CROP SCIENCE SOCIETY OF AMERICA

SOIL SCIENCE SOCIETY OF AMERICA

Atlanta, Georgia

November 29–December 4, 1981

Influence of Crop Residue Removal on Yields of Corn, Sorghum, and Soybeans With No Tillage. J. W. Doran* and W. W. Wilhelm, USDA-ARS, Lincoln, NE.

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.