# **Rotation and Tillage Effects on Corn and Soybean Yield as Affected by Rainfall Distribution. (A08-wortmann092155-Poster)**

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### **Abstract:**

The influence of weather on tillage and rotation effects was evaluated over 16 years in southeastern Nebraska. Corn and soybean yield were less with higher summer temperature. Soybean, but not corn, yield increased with summer rainfall. Tillage effects were similar for both corn and soybean yield, but corn yielded less with no-till than with plow-disk tillage. Tillage by year interactions were significant for both crops and the plow-disk advantage was less with warmer spring temperatures. Corn response to an environmental index was similar for all tillage systems; no-till and plow-disk tillage deviated most from the normal response due to varying spring temperature. Soybean vield response to an environmental index was less with chisel tillage than with other tillage treatments. Yields were more with rotation than with mono-crop for corn (7.10 vs. 5.83 Mg ha-1) and soybean (2.57 vs. 2.35 Mg ha-1). The rotation benefit was greatest for corn with cooler and wetter spring weather and higher summer temperature. The rotation effect on soybean did not vary with weather conditions. Spring weather accounted for more variation in tillage and rotation effects than did summer weather.

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