Effect of Preceding Crop and Residue Management on Corn Establishment in Manitoba

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A multi-year field study is underway near Brandon, Manitoba to assess the effects of preceding crop and residue management on corn performance. Treatments consist of a factorial combination of preceding crop (canola, soybean, wheat) and residue management (conventional till (CT), strip till (ST), no-till with straw chopped and returned (NT+) or straw removed (NT-)). In 2025, cool spring conditions contributed to slow and uneven corn emergence, providing a unique opportunity to assess corn establishment under challenging early-season conditions. In 2025, plant stand in corn was higher in ST than NT regardless of preceding crop, while plant stand in CT was intermediate between ST and NT+ treatments. Preceding crop did not influence corn stands in 2025. Preliminary analysis suggests that higher % residue cover on the soil surface at time of planting was associated to some degree with lower plant stands; however, this accounted for only ~40% of the variability in plant density. While preceding residue management practices affected corn establishment under the cool spring conditions of 2025, these data provide observations from a single site-year only. Additional site-years of data will be collected as part of this ongoing study to better understand the impact of preceding management on corn performance under a range of growing season conditions.