

## Performance of Soybean-based Rotations in Manitoba: Yield and Quality

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Soybeans have become an integral part of the cropping mix on Manitoba farms over the past 15 years. Research regarding the longer-term performance of these rotations is limited, however. To better understand the effects on yield and quality of including soybean (S) in rotation with wheat (W) and canola (C), a crop rotation study consisting of five rotations (SC, SW, SWC, SCW, SSW) was established north of Brandon, MB in 2014, with each phase of each rotation present in each year. Rotation effects were assessed from 2016 through 2021, after two years of stubble establishment. Growing season conditions varied considerably over this period, with growing season precipitation ranging from 60% to 160% of the long-term average depending on the year. Based on analysis conducted to date, rotation had no effect on wheat yield, influenced canola yield in 1 of 6 years, and influenced soybean yield in 4 of 6 years during this period, although no clear and consistent year-over-year trends were evident for soybean. Rotation generally had limited effects on test weight and seed size, with more frequent effects evident on % protein and % oil in seed. This rotation study is slated to continue until 2026 in order to better understand the longer-term effects of rotation, with further analysis of the current data planned.