

Ty Cusack Stop #2



Figure 3: Map of BMP and Check area for Ty Cusack's project site

Ty Cusack's site is one of the Peace Region Living Lab sites that is examining the effects of cover cropping. The site compares a land quarter with a cover crop mixture compared to a traditional annual cropping system. The cover crop mixture consists of approximately 20% radish, 10% vetch, 10% turnip, and the remainder red clover. The red clover was kept in production in 2024 in the BMP, and in 2025 the field returned to annual production. The cover crop mixture is predicted to improve compaction, infiltration, and therefore moisture content. Additionally, the legumes in the cover crop mixture should undergo nitrogen fixation at the roots, naturally adding nitrogen content to the soil. Overall, the crops following the cover crop rotation should be more productive for several years due to more nutrient availability and higher quality soil. The control field for the A2 site is a traditional annual crop throughout the entire study period, providing an effective means of evaluating the effectiveness of cover cropping. A component of this project is that Ty is attempting to find out why the check field has better yield and hydrological

properties than the BMP field, with hope that cover cropping may lessen these differences.

Below is a table showcasing the infiltration data corresponding with Ty Cusacks living lab site. Infiltration rate remained higher on the check field than the BMP field as expected due to pre-existing soil properties, however 2025 was the first year in which the BMP (cover crop) field showcased a substantially higher infiltration rate. This may demonstrate the benefits of cover cropping on infiltration following the return to an annual cropping system. Other soil parameters are relatively indiscernible between the check and BMP fields.

Table 1: Soil water infiltration rates in the BMP and Check area measured across 3 year.

Infiltration Rate (inches/ hr)	2023	2024	2025
BMP	60.21	47.92	73.73
Check	66.57	52.00	18.22



Picture 1. a) Ring pushed 2 inches deep, b) plastic wrap lining inside the ring



Picture 2. a) 1 inch of water, b) removing plastic wrap, c) water infiltrating the soil



Picture 3. Time to stop the timer, glistening surface

Figure 4: Illustration of how soil water infiltration is measured with a simulated 1" rainfall.