

Site A6
Soil Sampling
BMP and Check
Imagery Date: June 2, 2023

Legend
 ■ BMP sample
 □ CHECK sample
 ■ FWWF sample

Google Earth

2000 ft

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Ernest Wiebe's field site is part of the Peace Region Living Labs (PRLL) project that compares the effects of minimal tillage to plowing. Specifically, Ernest wanted to compare how plowing compares to minimum tillage in terms of carbon sequestration and compaction. The BMP field (north) in this study is an annually plowed field where the check (south) is the minimum tillage field. Plowing offers a method of reducing surface compaction, therefore leading to a variety of benefits such as improved infiltration, and plant health. However, the practice of plowing may lead to increase soil erosion, and compaction in deeper layers of soil. The BMP field has been plowed every year for the purposes of the study which is contrary to typical practices, providing insight into the effects of annual plowing. The minimum tillage field is seeded in one pass with a hoe type opener to mitigate soil disturbance. The BMP and check fields share the same crops and practices to assure that differences observed in agricultural properties are associated with plowing versus minimum tillage.

Below shows compaction data for Ernest's Living Lab site demonstrating a substantially lower compaction in the minimal till field compared to the plowed field. It is important to note that the compaction benefits are only seen at depth of 4" and 8", suggesting that deeper soil does not receive compaction benefits. Ernest's Living Lab site is one of the fastest infiltrating fields across the BC sites of the PRLL, meaning that water infiltrates the soil rapidly during simulated rainfall.

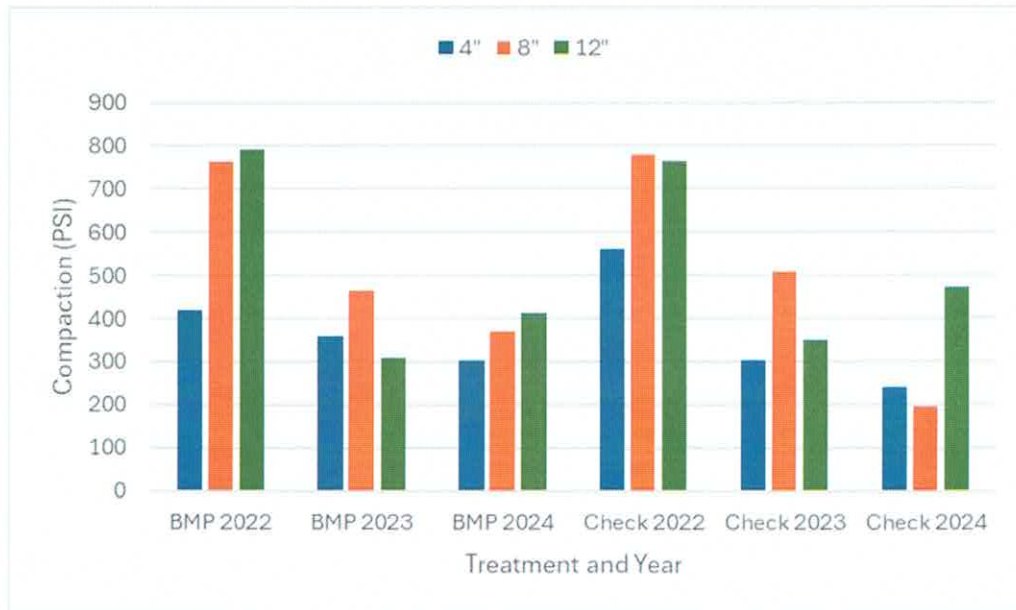


Figure 2: Soil compaction at 4", 8" and 12" measures in the BMP and Check area across 3 years.



Picture 1: Using the Soil Compaction meter to determine soil compaction. *Photo Credit: SpotOn.*