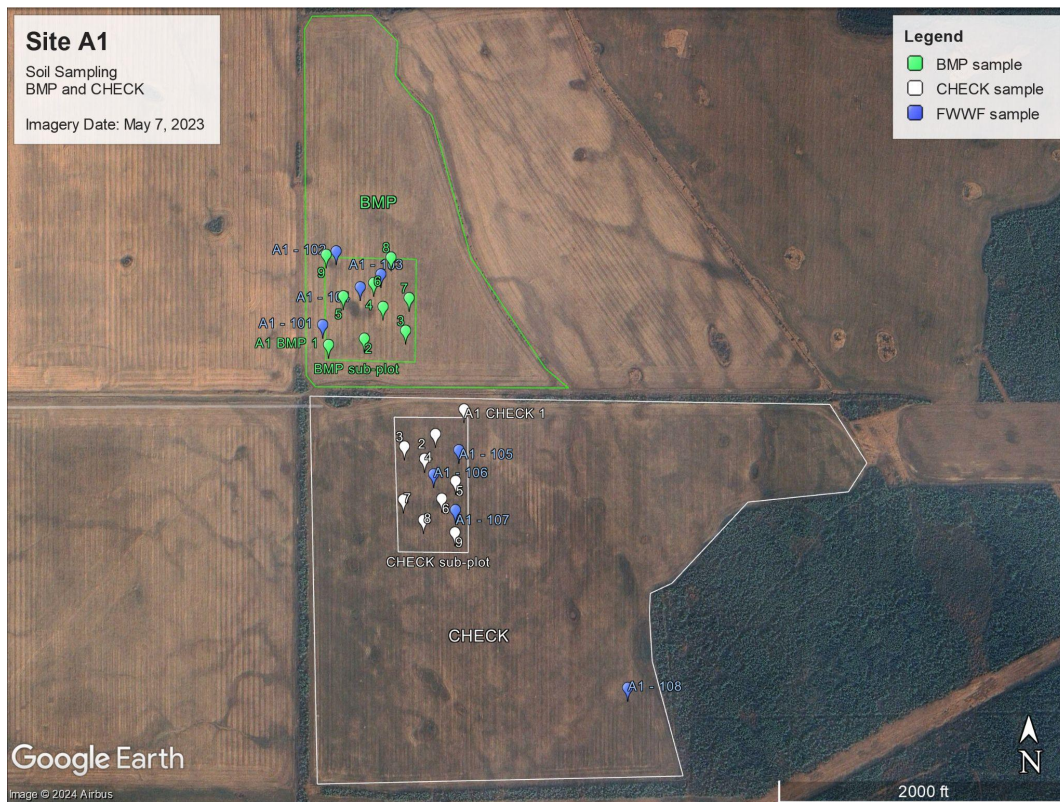


Site A1 - River Crest Farms



The A1 site is located at River Crest Farms and is part of the Peace Region Living Lab (PRLL). The farm operates a mixed cattle and cropping operation, producing annual crops as well as fescue, timothy, and perennial ryegrass for seed.

The producer wanted to determine whether integrating cattle grazing into forage seed production could improve soil health, increase soil organic matter, reduce overall production costs (including fuel, machinery, and chemical inputs), and support a smoother transition from perennial forage back to annual cropping.

The best management practice (BMP) being evaluated is integrating cattle grazing into the fescue phase of the cropping system. The comparison (check) field also includes fescue but is managed using mechanical clipping instead of livestock grazing.

Soil sampling has shown that organic matter has been slowly improving in the BMP field and that the soil is becoming more alkaline. Our soil reports show that organic matter in the top 6 inches of soil has risen from 3.5% to 3.8% from 2024 to 2025 and pH has reduced from 5.2 to 4.7. The check field had the opposite results, as organic matter in the check field has reduced from 3.6% to 3.1% and pH has risen from 4.6 to 4.9. This interpretation may change with the addition of more data.

Site A1 - River Crest Farms

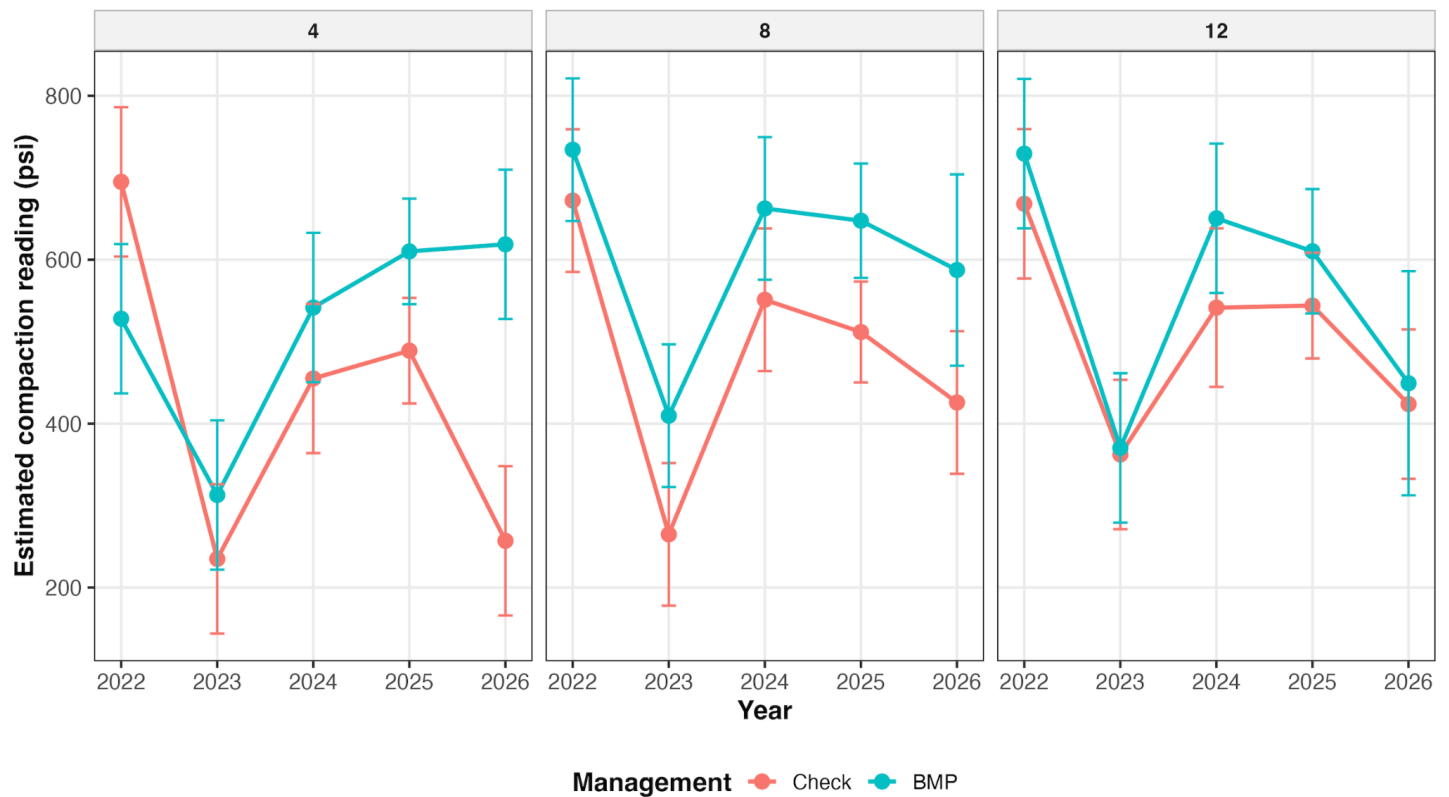


Figure 1. Model-estimated soil compaction (penetrometer resistance) measured at 4-, 8-, and 12-inch depths from 2022 to 2026.

Soil compaction (penetrometer resistance) varied over the five-year study and differed between the BMP and Check fields. In 2022, the BMP field generally had lower surface compaction (4-inch depth) than the Check field, but from 2023 onward the BMP consistently showed higher resistance at the 4- and 8-inch depths. At the 12-inch depth, differences between the two fields were smaller and more variable. Both fields experienced a noticeable reduction in compaction in 2023, likely reflecting favourable soil conditions during sampling, before increasing again in subsequent years. These results indicate that soil strength varied over time and with depth, highlighting the importance of interpreting penetrometer readings alongside soil moisture, infiltration, and field management history rather than relying on compaction measurements alone.

Note: Penetrometer resistance (psi) is influenced by both soil compaction and soil moisture. Higher readings indicate greater resistance to probe penetration but should always be interpreted together with soil moisture conditions and other soil health indicators.