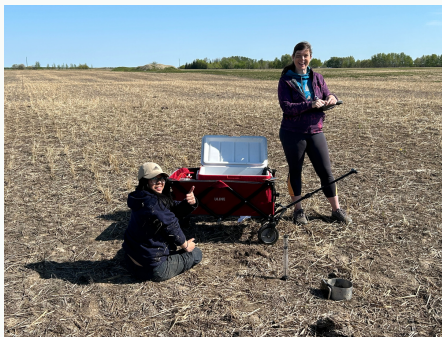


PEACE REGION LIVING LAB

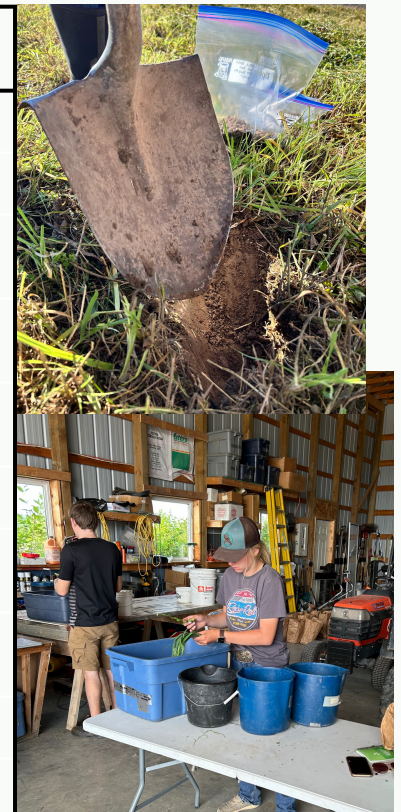
Co-Benefits

The Peace Region Living Lab project is a region-wide collaboration led by the Peace Region Forage Seed Association (PRFSA). Seven other producer groups in Alberta and BC have joined the PRSFA to bring together a project that will serve agricultural producers and land stewards of the region. Enhancing agroecosystem services in the Peace River Region is the focus of the Peace Region Living Lab (PRL), with the goal of adoption of practices that improve productivity, profitability and environmental resiliency.



PEACE REGION
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Site ID	Management Type	Crop Type
D1 Hawk Hills	BMP	Canola/ pea intercrop
	Conventional (Check)	Canola
D2 Warrensville	BMP	Annual and perennial cover crops
	Conventional (Check)	Perennial silage
D4 North Star	BMP	Annual cover crop for swath grazing
	Conventional (Check)	Oats
D5 Chinook Valley	BMP	Alfalfa (hay), humic acid applied
	Conventional (Check)	Alfalfa (hay)
D6 Warrensville	BMP	Oats, humic acid applied
	Conventional (Check)	Canola



PEACE REGION LIVING LAB

Co-Benefits



The Peace Region Living Lab partners with Agriculture and Agri-food Canada (AAFC) to promote the use of best management practices in agriculture in various agricultural field zones across the country. The idea is to create a data compilation of parameters observed in growers field and use this data to compare and assess the impact of sustainable versus conventional agricultural practices.

Parameters are measured in either a field conventionally managed or a field following best managements practices such as cover cropping, intercropping, pasture, etc. These parameters are comprised of four properties related to soil described as follows: (1) **Infiltration**: The rate of water flowing through the soil column is measured by using (a) a **mini-disk infiltrometer**, where a small transparent column, with a semipermeable end is placed on top of the soil and allowed to discharge its water content (60ml) onto the soil ground. Volume of water discharged every 30 seconds. A maximum of five minutes (10 water volumes) is recorded should there still be water inside the column after that time period; and (b) a **single ring system**, where a ring as wide as 15cm is hammered into the ground to a depth of 5cm. The ring is covered with a plastic film and 0.5L of water are poured into the film inside the ring. The film is removed and the time water takes to percolate through the soil inside this ring is taken. (2) **Compaction** which is measured through a penetrometer. In this way, pressure in pounds per squared inch are taken at depths of 10, 20, and 30 cm in a single place. (3) **Temperature and soil moisture**, taken using a soil thermometer and a soil moisture metre and (4) a **visual assessment** where a shovel of soil is dug out and observed for physical features. Soil samples are sent to AAFC for microbial and nematode analysis.

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Co-Benefits



Forage and crop residue are collected as well. Forage is collected before a scheduled cutting by the grower to assess forage yield and its nutrient content. Crop residue and grain is also collected in fields where a cash crop was grown to assess grain yield and observe potential signs of pests or pathology in leftover stubble.



Other measurements in both conventional and BMP fields: (1) Insect monitoring, which is taken by digging a small hole in the soil and set a plastic pit trap in it, collecting them a week after. Sweep nets are also used. The operator walks 50 steps along a transect at the edge of the field and into the field and waves the sweep net inwards along the transect. Insects are stored away in alcohol and shipped to the AAFC Beaverlodge research station for identification purposes. (2) Disease monitoring, ten random plants are collected at each inflection point of a zig zag pattern. Each plant is assessed for signs of pathology (plant diseases) or arthropod herbivory (insect feeding). Plants are collected, pressed for preservation, and sent to Dawson Creek in British Columbia for identification. (3) Forage and crop residue are collected as well. Forage is collected before a scheduled cutting by the grower to assess forage yield and its nutrient content. Crop residue and grain is also collected in fields where a cash crop was grown to assess grain yield and observe potential signs of pests or pathology in leftover stubble.

