Strategic Research Initiative project funded in 2022

Carbon Sequestration Under Pasture and Forage Resources (20211010)

Principle Investigators: Dr. Angela Bedard-Haughn of University of Saskatchewan and Dr. Cameron Carlyle of University of Alberta

Objectives:

- Develop remote sensing based predictive mapping tools for the accurate mapping and quantification of current soil carbon stocks in Saskatchewan pasture and forage lands.

- Develop tools for lower-cost field data collection for soil property determination and mapping.

- Determine the effects of forage management on soil carbon and forage production at regional scales.

  o Investigate how different pasture and forage land management practices affect soil organic carbon stocks;

  o Examine interactions between land management, landscape, and soil properties in terms of soil carbon effects; and

  o Examine effects of management changes on forage quality and quantity.

- Whole Farm Modelling: provide policy makers and producers with additional model outputs to facilitate decision making by testing and validating the Holos whole-farm model with predictive soil mapping data and data from pasture and forage land management studies.

- Modelling soil carbon, forage and economics to improve policy and land management decisions.

  o Future forecasting of soil organic carbon and forage production under various management and climate change scenarios; and

  o Examine the economic costs, consequences, and opportunity costs associated with producer management changes.

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