

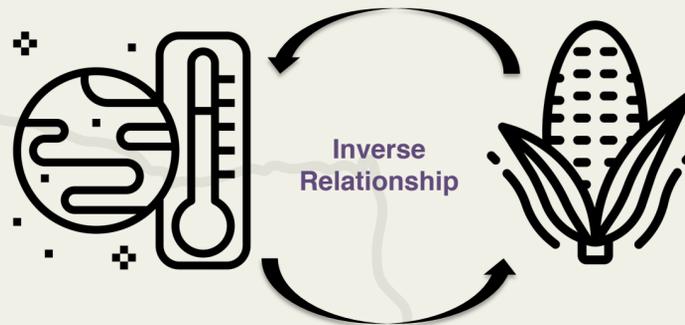
Farmer-Identified Climate Policy and Interventions in Ontario

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The Dilemma

Canada's greenhouse gas emissions from agricultural production are projected to increase by ~4% from 2016 levels by 2030¹

Currently, 82% of Ontario's agricultural soils are losing carbon to the atmosphere²



The effects of climate change can intensify challenges in nutrient and pest management and animal welfare

Increased threats of extreme weather, particularly heavy rains may limit the benefits of longer growing seasons expected from rising temperatures³

What Do We Know About Farmers' Role In This Dilemma?



We know that some agricultural practices, including excess nutrient and manure application, inefficient animal feeding, and conventional tillage can be **sources of GHG emissions**, including nitrous oxide and methane⁴



We also know that some agricultural practices, including conservation tillage, cover cropping, and improved efficiency in nutrient application and animal feed, can **reduce GHG emissions** and in some cases support the sequestration of carbon in soils⁵

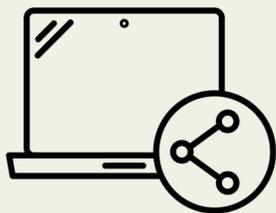


We know little about what policies and interventions are effective and attractive for farmers in Ontario to mitigate climate change in agricultural production⁶

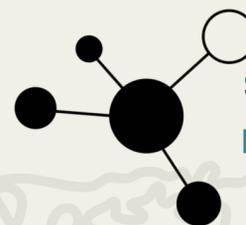
Research Methods

A policy evaluation tool will be used to frame potential climate policy and interventions that farmers will be able to interact with to identify policies and actions that they view as acceptable and effective.

Step 1: Develop Policy Evaluation Tool



Developing this tool includes a literature review and key informant interviews to inform the inclusion and organization of policies and interventions



Step 3: Incorporate Farmers' Feedback

Farmers' feedback and preferences will be reviewed to revise and update the tool

Step 2: Present Tool to Farmers



The tool will then be shared with farmers to include their input. The objective of this step is to identify climate policies presented in the tool and ones not yet considered that farmers view as acceptable and effective



Step 4: Present Back to Farmers for Refinement

The policy options identified by farmers and their outcomes will be presented back to them for reflection and to confirm that the policy options selected represent the experience and outcomes that they would like to see

Anticipated Research Contribution



Facilitate discussions on potential ways for farmers in Ontario to reduce GHG emissions from production

- By engaging with this policy evaluation tool, farmers will be exposed to new ways of visualizing and communicating climate action



Catalyze climate action in agricultural production

- Increasing dialogue around climate change can promote action at different scales, from individual to international levels^{7,8}



Support the development of climate policy in Ontario's agricultural sector

- This research includes the development of a tool that can facilitate the inclusion of farmers in the evaluation process of policymaking