

# EFAO LIVESTOCK 2020: Research Protocol

## Assessing chronology of soil health in pastures across a topographic gradient

Farmer-Researcher: Andy Macdonal, Highland Farm - Central

Research Priorities: Pasture Regeneration, Soil Health

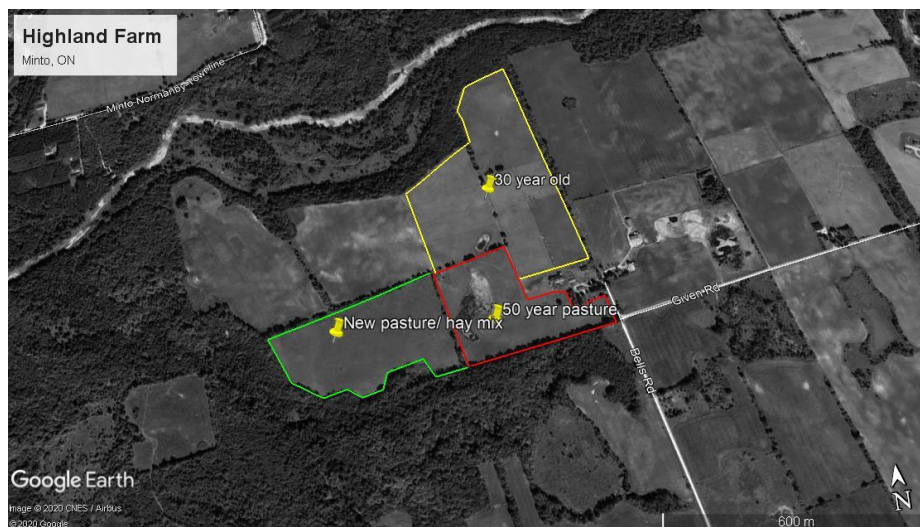
EFAO Contact: Sarah Hargreaves, [sarah@efao.ca](mailto:sarah@efao.ca), 226-582-0626

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### Objective

To quantify the nutrient profile along the topographic gradient (top slope, side slope, bottom) in new and old pastures.

### Experimental Design



For each field and topographic location, Andy will find 3 representative plots around 4m x 4m, for a total of 18 plots (2 fields x 3 topographic locations x 3 replicate plots = 18).

Within each plot, Andy will take 10 soil cores (15cm/6inch) and combine them in the pre-labeled bag; and mark the approximate location of each plot on the aerial map.

- Bags 1-3: 50 year old pasture, top of field
- Bags 4-6: 50 year old pasture, mid-slope
- Bags 7-9: 50 year old pasture, bottom of slope
- Bags 10-12: New pasture, top of field
- Bags 13-15: New pasture, mid-slope
- Bags 16-18: New pasture, bottom of slope

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He will keep the bags in a cooler and out of direct sunlight. They need not be stored at 4C, they just shouldn't get hot before mailing to A&L labs.

### Materials

Please list all the equipment that you need for this project. Indicate "in-kind" under Total Cost for any materials that you already own or have access to. For pre-approved research expenses, for which you will be reimbursed, please indicate cost.

Material	Quantity Required	Total Cost*
Freezer/sandwich bags, pre-labeled 1 - Macdonald 50 Top 2 - Macdonald 50 Top 3 - Macdonald 50 Top 4 - Macdonald 50 Side 5 - Macdonald 50 Side 6 - Macdonald 50 Side 7 - Macdonald 50 Bottom 8 - Macdonald 50 Bottom 9 - Macdonald 50 Bottom 10 - Macdonald New Top 11 - Macdonald New Top 12 - Macdonald New Top 13 - Macdonald New Side 14 - Macdonald New Side 15 - Macdonald New Side 16 - Macdonald New Bottom 17 - Macdonald New Bottom 18 - Macdonald New Bottom	18	EFAO will reimburse
Soil analysis		EFAO will be billed
Shipping		EFAO will reimburse
Corer	1	In-kind

\* For approved research expenses

**Farmer-fee:** \$500 in 2020, invoiced to EFAO after farmer-researcher submits data.

### Memorandum of Understanding

**Farmer-researchers agree to keep an active membership with EFAO throughout the duration of their trial. Reimbursement for research expenses and farmer-fees will be paid to current members only.**

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Please also refer to [efao.ca/farmer-led research](https://efao.ca/farmer-led-research) for a **Memorandum of Understanding** of other responsibilities. Specifically refer to sections:

- *What is expected of me as a farmer-researcher?*
- *What support will I receive from EFAO as a farmer-researcher?*

To check the status of your membership, log in here:

<https://efao.z2systems.com/np/clients/efao/login.jsp> or contact Martina, [martina@efao.ca](mailto:martina@efao.ca).