

Farmer-Led Research 2019: No-till Spring Cereals



COVER CROPS SOIL HEALTH

Farmer-Researcher(s):

Ken Laing, Orchard Hill Farm - West

EFAO Contact

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This document outlines the steps that Ken will follow to execute his research project, *No-till Spring Cereals*, including design, execution, data collection and data sharing. It also serves as a Memorandum of Understanding between Ken and EFAO.

Background

Can a farmer use winter killed cover crop to provide fall and winter cover on soil and make suitable field conditions to no-till plant spring cereals?

Most spring cereals are planted into fall tilled soil leaving fields susceptible to erosion and loss of nutrients. No-till planting should allow earlier planting dates which should translate into higher yields as spring cereal yields are depressed with late planting. Underseeding of legumes and grasses should be more successful with early planting too. Acreage of spring cereals in Ontario is 320,000 acres. For more information, see [Ken's 2018 protocol](#).

Experimental Design Update

Measurements

From each strip (5 strips each of sorghum-sudan, oats/barley/pea, daikon radish, faba beans/oats/barley, fall tillage (control)), Ken will:

- Soil coverage for erosion control - Ken will take photos just before planting in **March 2019** (Ken will also mark out plots with patio pavers, which will allow equipment to pass)
- Yield of oats/barley grain - 10' strip down centre of each plot; Ken will borrow or rent a weigh wagon (**August/September 2019**)
- Success of underseeding: After harvest (**October 2019**), Ken will take photos of quadrats from each plot to estimate underseeding success from photo images.

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Research Expense Budget 2019

Prices are approximate; NA or in-kind for any materials that you already own or have access to. Please indicate if you intend to give any of the supplies to EFAO's Tool Library for others to use after you are finished with them.

Material	Quantity	Unit	Total Cost	EFAO's Tool Library (Y/N)
Grain cart for weighing	1 rental			N
Oats and barley, grass seed,				N
Amendments applied at seeding time				N
No-till drill	-	-	In-kind	N
Tillage tools	-	-	In-kind	N
3 horse team	-	-	In-kind	N
Combine	-	-	In-kind	N
Labour	-	-	In-kind	N
Total cost			Max \$524	

Research Calendar

See above

Deadline for data, progress report and photo submission

October 1, 2019

Memorandum of Understanding

Please refer to efao.ca/research-mou for Memorandum of Understanding.

Acknowledgements

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