

Canola Research Update



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Total Insured Canola Acres

Year	Insured Acres	Average Yield of Insured Acres (lb/ac)
2019	30,302	2,156
2018	39,400	2,188
2017	29,250	2,443
2016	29,500	2,095
2015	25,000	2,341

OCGA Research Investments

		2017/18	2018/19	2019/20
R. Hallett, UG	Swede midge management and beneficial parasitoid	\$5,000	\$5,000	\$5,000
E. Page, AAFC	Winter canola rotation and residue trial. Winter canola variety and planting date trial	\$7,500	\$7,500	\$7,500
D. Hooker, UG	Winter canola variety and planting date trial	-	\$5,000	-
M.R. McDonald, UG	Clubroot management	\$5,000	\$5,000	\$5,000

County	# Contracts	# Insured Acres
Temiskaming	36	11,268
Nipissing	11	1,119
Cochrane, Sudbury, Manitoulin, Algoma, Rainy River, Thunder Bay	21	4,783
Bruce, Grey, Huron, Perth	19	3,122
Dufferin	19	2,612
Wellington	13	2,382
Simcoe, Durham, Kawartha Lakes, Northumberland	10	2,836
Renfrew, Ottawa, Lennox/Addington, Prince Edward	11	1,756
Chatham-Kent, Essex, Niagara	10	444

County	Average Yield (lbs/ac)
Temiskaming	2,037
Nipissing	2,928
Cochrane, Sudbury, Manitoulin, Algoma, Rainy River, Thunder Bay	2,408
Bruce, Grey, Huron, Perth	2,011
Dufferin	2,400
Wellington	2,366
Simcoe, Durham, Kawartha Lakes, Northumberland	1,929
Renfrew, Ottawa, Lennox/Addington, Prince Edward	1,609
Chatham-Kent, Essex, Niagara	1,937



2019 Canola Yield Challenge Winners

		Yield lbs/ac	Variety	Location
1 st	Nathan Van Overloop	4199	Popular Winter Canola	Chatham
2 nd	JR McLaughlin	3878	L255PC	Harriston
3 rd	Mike Christie	3683	L234PC	Tara
4 th	Emily & Sean Helmuth	3628	L233P	Harriston
5 th	Brian & Jon Wiley	3422	L255PC	Meaford
6 th	Harold & Wilma Fisher	3412	Mercedes Winter Canola	Harriston

Sulphur x Nitrogen Trial – Elora 2019

S (lbs actual)	N (lbs actual)	Yield (tonnes)	
0	100	0.08	c
0	150	0.16	c
0	200	0.08	c
10	100	0.84	ab
10	150	1.03	ab
10	200	0.80	ab
20	100	1.10	a
20	150	1.15	a
20	200	1.06	ab
30	100	1.03	ab
30	150	0.99	ab
30	200	0.96	ab

AMS + urea
pre-plant

1 year, 1 location

Peter Smith, UG

Insect IPM and Fertility



No sulphur pre-plant



Slow growth



Flea beetle reduced plant stand even WITH an insecticide

Spray Quality for Swede Midge Control Elora 2017-2019

Spray Volume (Coragen)	Avg Yield (lb/ac)
20 gal/ac	1955
20 gal/ac + adjuvant	2284
30 gal/ac	2076
30 gal/ac + adjuvant	2132
40 gal/ac	2165
40 gal/ac + adjuvant	2216
Untreated Control	1734

Beneficial Parasitic Wasp – *S. myles*

R. Hallett, UG

- Distribution, seasonal abundance
- Synchrony with swede midge
- Factors affecting parasitism rates
- Susceptibility to insecticides
- Simple detection and ID methods



Abundance of *Synopeas myles* in 2019 Samples by Region

	Swede Midge	<i>Synopeas</i> <i>myles</i>	% Parasitism
Renfrew	5,383	710	12%
Wellington	328	0	0%
Bruce	1,201	110	8%
Shelburne Area	16,044	488	3%
West Nipissing	12,604	800	6%
Temiskaming	960	192	17%
Cochrane	246	2	1%
Total	36,766	2302	6%

Insecticide Sensitivity of *S. myles*

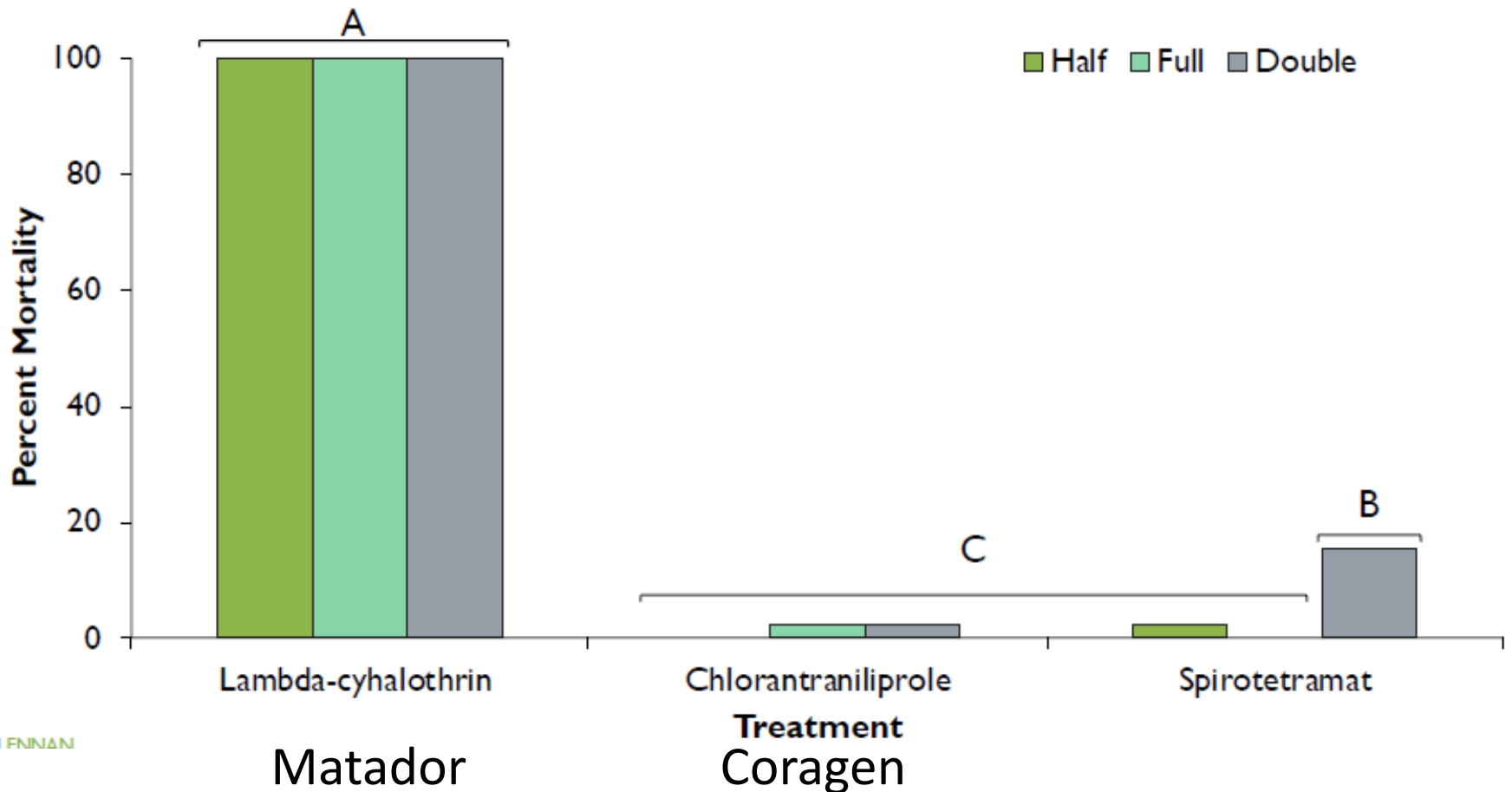
R. Hallet, UG

- 2 Experiments:
 - Contact exposure
 - Residual exposure
- Active Ingredients:
 - Lambda-cyhalothrin (Matador 120EC)
 - Chlorantraniliprole (Coragen)
 - Spirotetramat (Movento)
- Half, full and double recommended rates

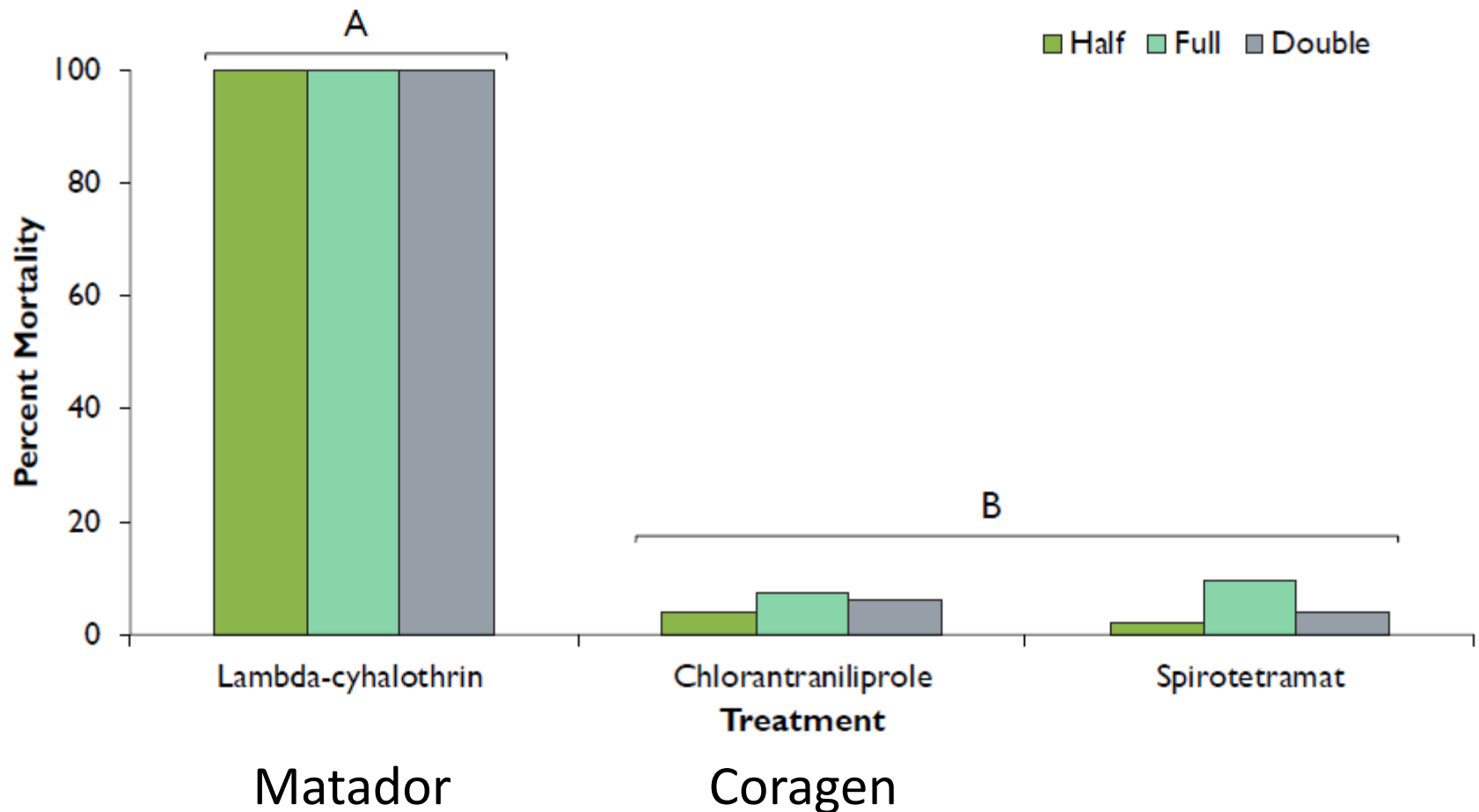


Mini Potter spray tower

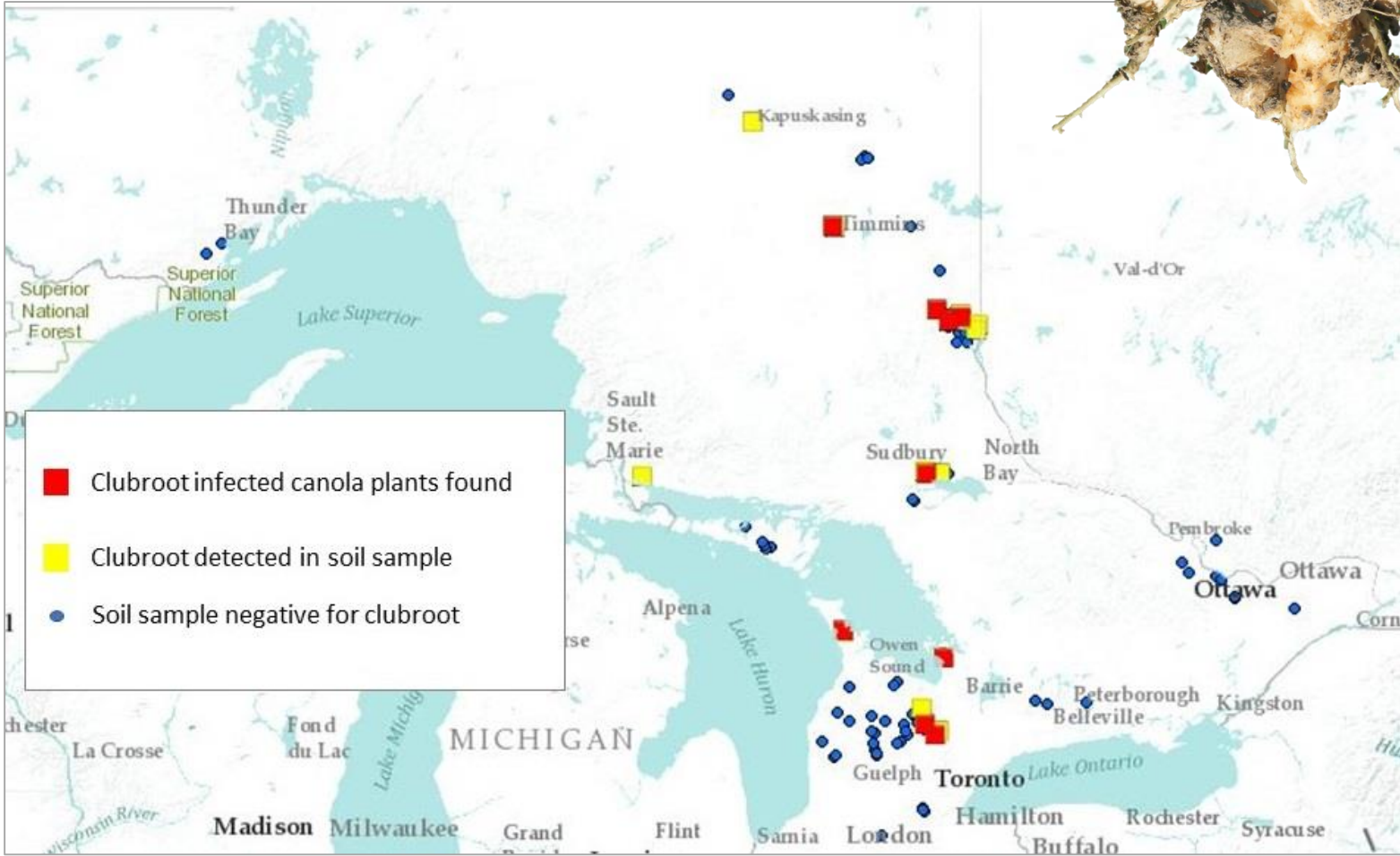
S. myles Contact Toxicity



S. myles Residual Toxicity



Ontario Clubroot Survey 2016-2018



Clubroot Management – Rotation Crops that Drive Down Spore Counts







Mary Ruth McDonald, UG

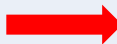
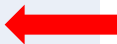
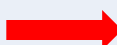





Soil containing ~250,000 clubroot spores per gram of soil



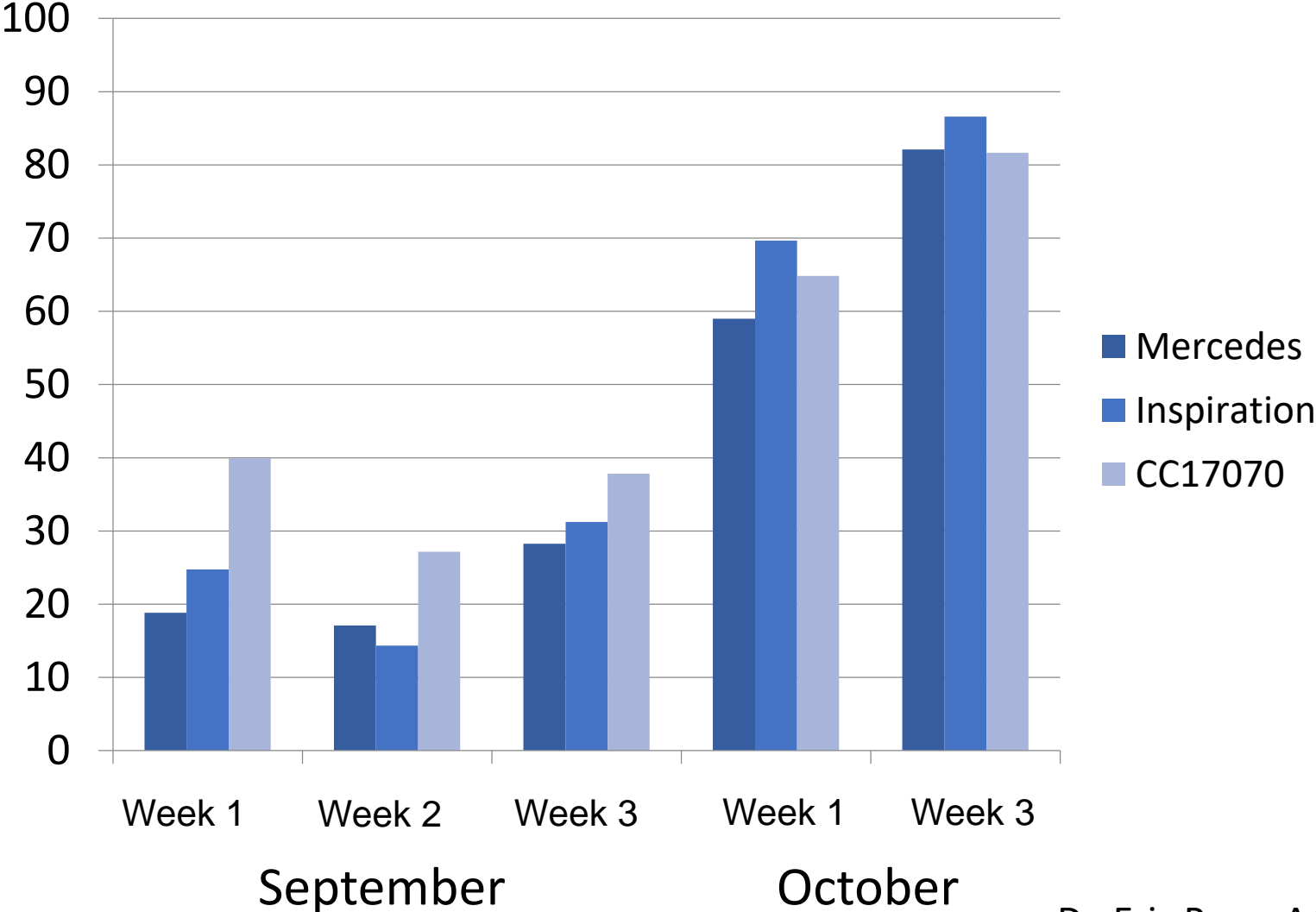
Crop Planted	Resulting Spore Count
Perennial ryegrass cv. Norlea	158,960 A
Field pea cv. CDC Meadow	117,511 AB
bare soil	114,545 AB
Spring wheat cv. AAC Connery	82,808 AB
Barley cv. Trochu	75,794 B

preliminary results

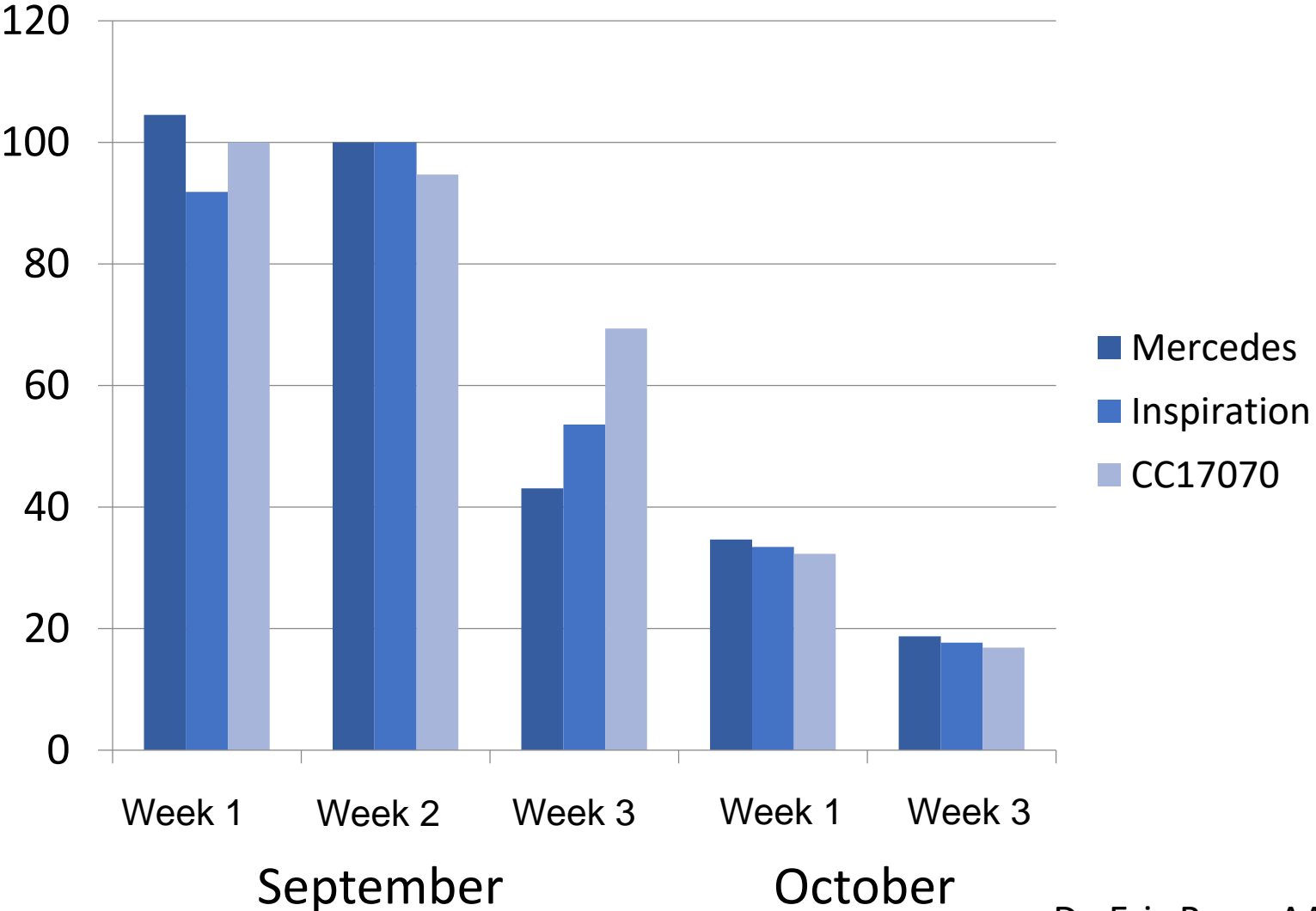
Winter Canola		Harrow	Woodslee	Mean
Variety		% winterkill		
	Mercedes	10.6	9.1	9.9 
	Inspiration	16.5	13.6	15.0
	Phoenix CL	16.2	7.1	11.6
	Plurax CL	20.2	8.6	14.4
	Popular	23.8	8.8	16.3 
	Quartz (OP)	26.6	15.1	20.8
	Hidylle	27.7	8.2	17.9
	Hamour	26.5	10.0	18.2
	Sitro	36.4	24.0	30.2
	CC17070	26.0	20.4	23.2 
	CC17069-IMI	34.6	5.1	19.8
	CC170-2869	35.2	28.3	31.7
	CC170208	45.6	34.8	40.2
	Average	26.6	14.8	

Winter Canola		Harrow	Woodslee	Mean
Variety		———— bu/ac ————		
	Mercedes	71.2	94.7	83.0 
	Inspiration	78.8	80.2	79.5
	Phoenix CL	78.6	76.5	77.5
	Plurax CL	80.0	82.7	81.4
	Popular	85.2	96.2	90.7 
	Quartz (OP)	82.1	84.8	83.4
	Hidylle	74.1	76.8	75.4
	Hamour	86.8	86.4	86.6 
	Sitro	59.4	57.4	58.4
	CC17070	79.8	58.7	69.2 
	CC17069-IMI	79.7	66.6	73.1
	CC170-2869	76.4	62.9	69.6
	CC170208	81.8	59.2	70.5
	Mean	78	75.6	

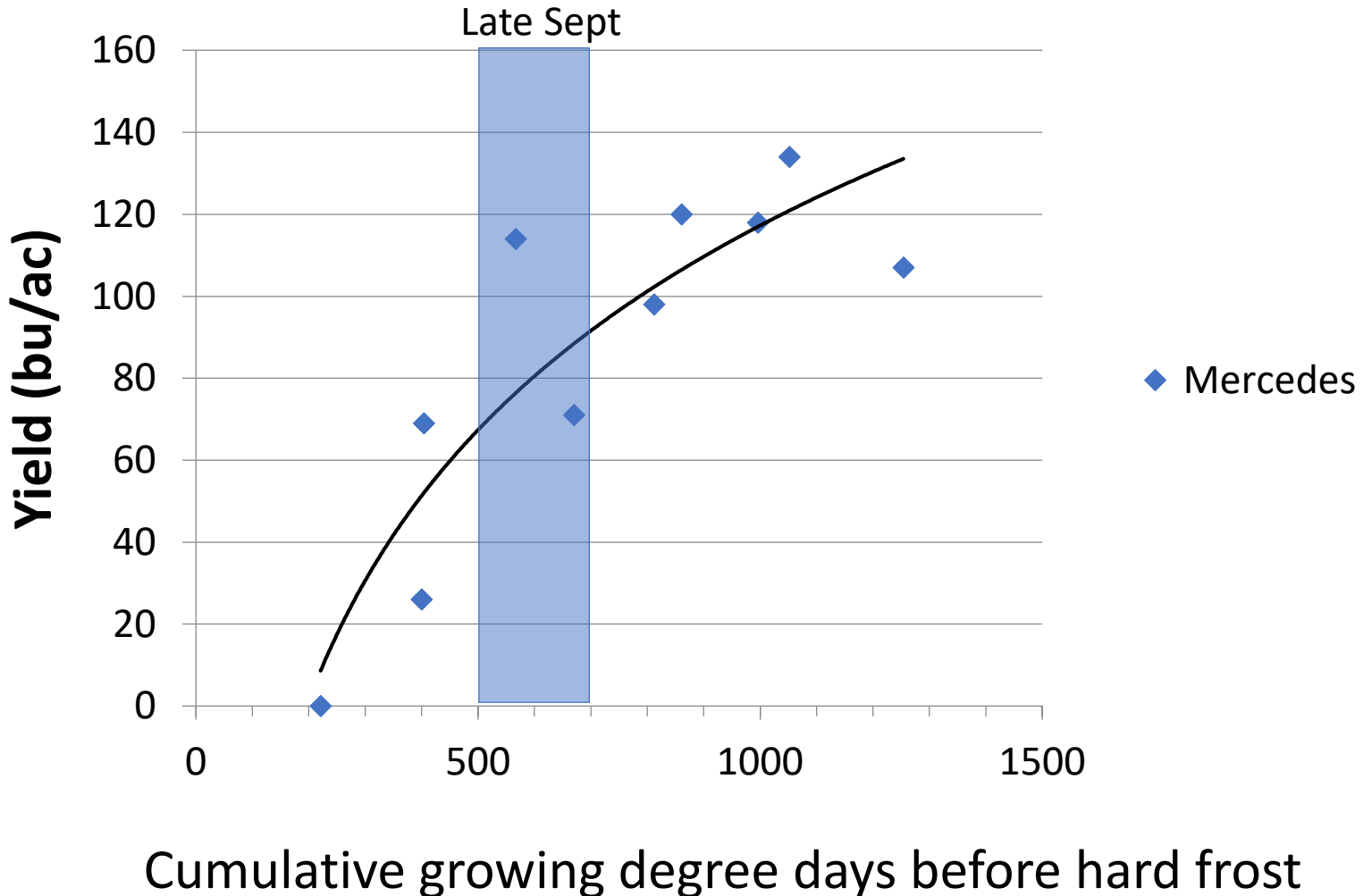
Winter Canola Winter Kill (%) – 2016-18 Essex County



Winter Canola Relative Yield (%) – 2016-18 Essex County



Winter Canola -Fall Establishment Harrow ON



Winter Canola Planting Date

Earlier than ideal winter wheat timing

Wheat → 450 GDDs before winter

Canola → ~600 GDDs before winter

Not too early, do not want flower buds forming or bolting before winter.

Essex, Kent – Sept 5-15 likely ideal



Monitoring Fields in 2018/19

~2000 acres planted in Essex, Kent, Hamilton-Wentworth, Wellington Counties

18 fields monitored fall and spring

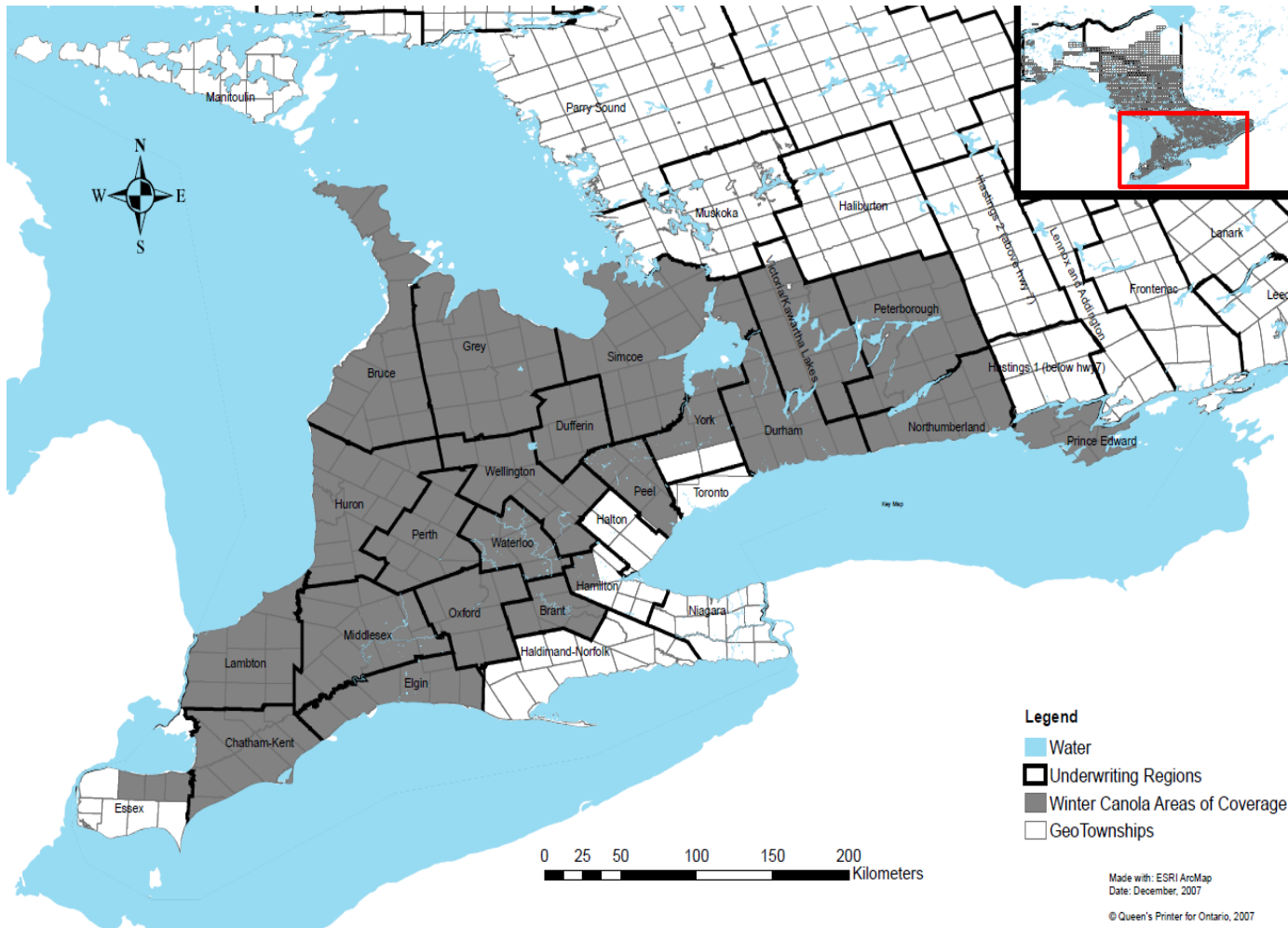
→ 7 “winter” kill

→ prolonged wet, cold conditions

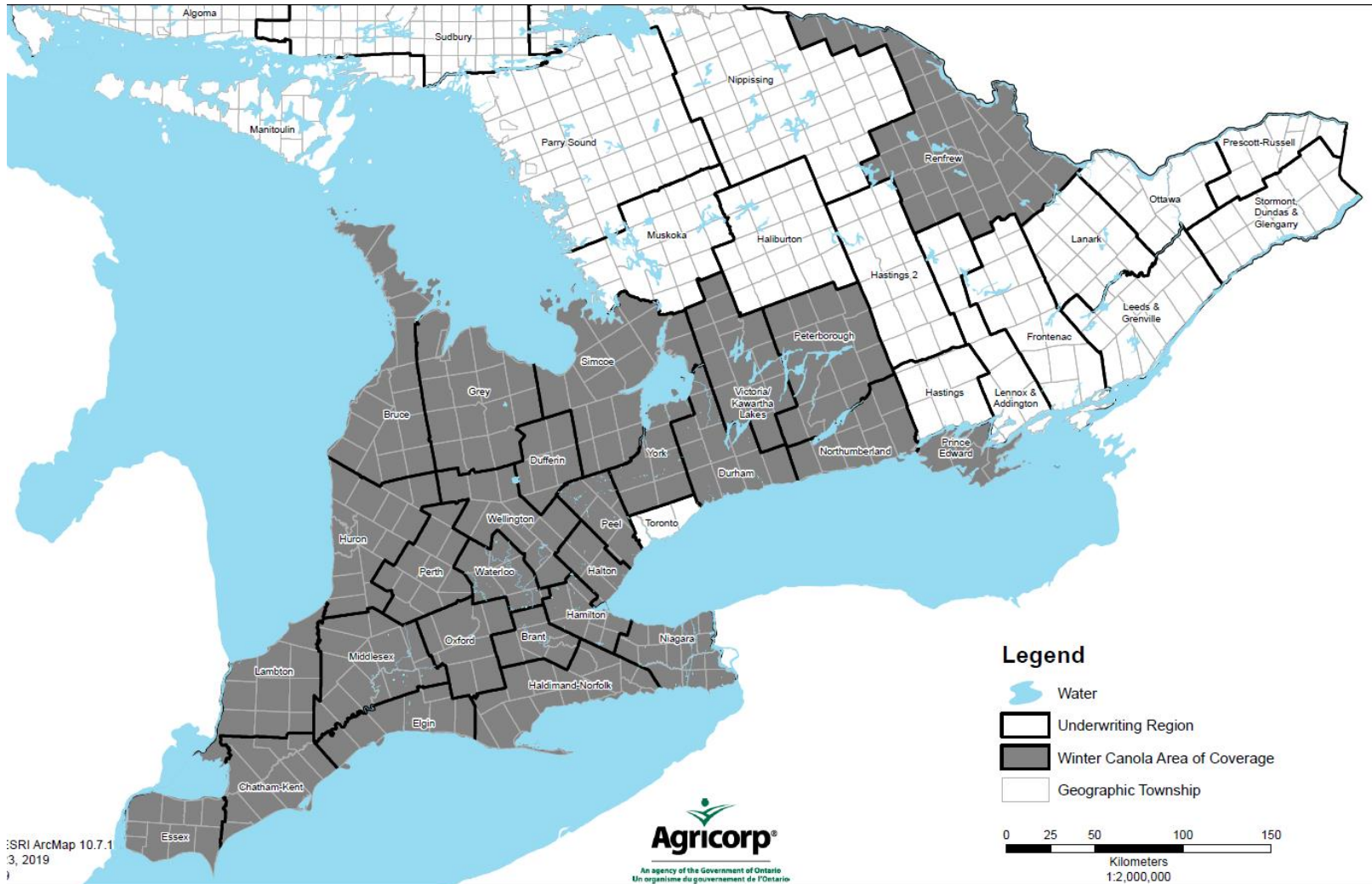
Yield Range: 1900 – 3500 lbs/ac (0.86 – 1.59 tonnes)

Yield Average: 2722 lbs/ac (1.24 tonnes)

Winter Kill Crop Insurance – Previous Map



Winter Kill Crop Insurance – New Map



Future Research Directions

Dr. Page, AAFC Harrow

Managing residue for establishment

- Till/Strip/No-till following WW or Soy

Intercropping for reduced inputs

- Winter Pea-ola



Future Research Directions

Dr. Page, AAFC Harrow



Expanding northward?

- Polish winter canola

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