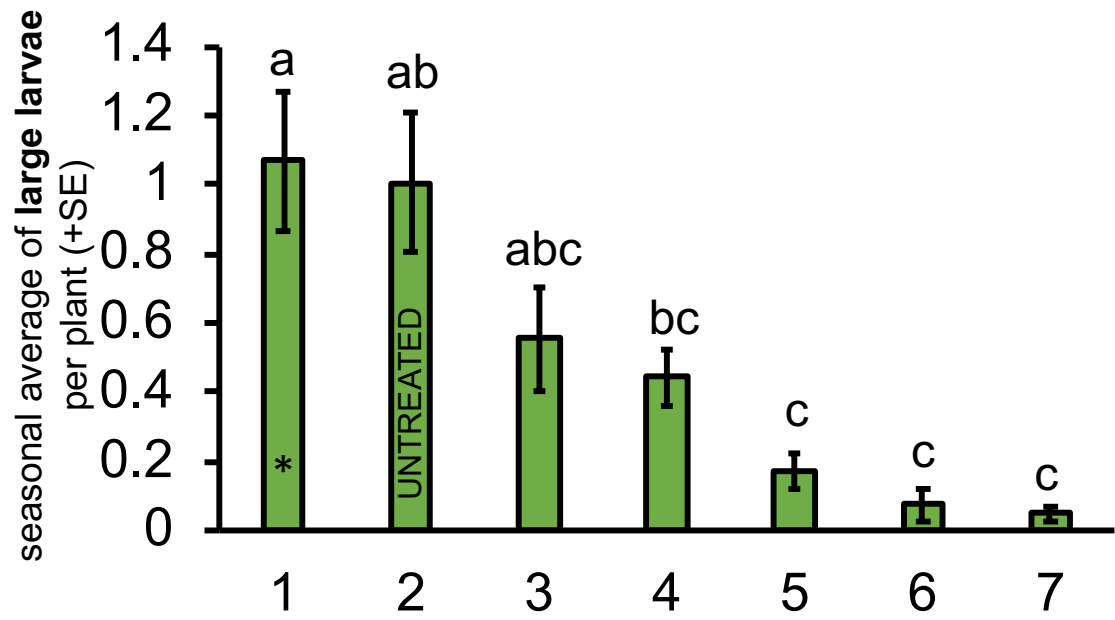




Colorado potato beetle insecticide trial - 2018

Potato planting: April 25, 2018
 First foliar application (~50% egg hatch): June 6, 2018
 Subsequent foliar applications: >1 per plant large larvae
 Application: 30 psi, 30 gallons/A



Note: Bars with the same letters are not statistically different from each other.

*Sivanto Prime (TRT 1) is a newer insecticide mainly for leafhopper control; leafhopper data is not reported here since we found very few of them during our trial.

	Treatment	Application type	Rate (fl oz/A)
1	Sivanto Prime	Foliar (2x)	10.5
2	Untreated	-	-
3	Sivanto HL + R11 (surfactant)	Foliar (2x)	5.25
4	Admire Pro + R11 (surfactant)	Foliar (2x)	1.3
5	Ethos XB Exirel + NIS	In furrow Foliar (3x)	12.8 5
6	Verimark Gladiator + NIS	In furrow Foliar (3x)	13.5 19
7	Verimark	In furrow	13.5

NIS – non-ionic surfactant

Verimark, Exirel – cyantraniliprole (28), FMC
 Ethos, Gladiator – pyrethroid (3), FMC
 Sivanto, Admire Pro – neonicotinoid (4), Bayer



Heat wave experiments - 2018

- Over the past year, our preliminary laboratory experiments provided evidence that heat waves cause yield losses in potatoes and they reduce Colorado potato beetle survival.
- This summer we tested our lab findings in field trials, under more natural conditions.
- Ceramic heaters over cages served to increase ambient temperatures, simulating heat wave conditions.

METHODS

- 300-Watt ceramic heaters increased night-time temperatures by approx. 10°F. Day-time temperatures were increased above ambient by approx. 10-15°F.
- This resulted in a heat wave with day-time highs in the upper 90-100°F and night-time lows around 70-75°F.
- 3 heat waves consisting of 4 days + 4 nights were conducted; 1 in early July, 1 in late July, and 1 in early August.
- Treatments were: day + night heated cages (24), day-time only heated cages (12), and control cages (36).
- The number of potato stems, amount of defoliation and CPB abundance were quantified within the innermost 30 inches of each plot prior to and after each heat wave. Yield will be recoded in late August.



Cages set up at the Montcalm Potato Farm to test the effects of heat waves on Colorado potato beetle and plant development. Some cages were equipped with heat lamps that elevated temperatures above ambient.

Overwintering generation Colorado potato beetle insecticide trial - 2013



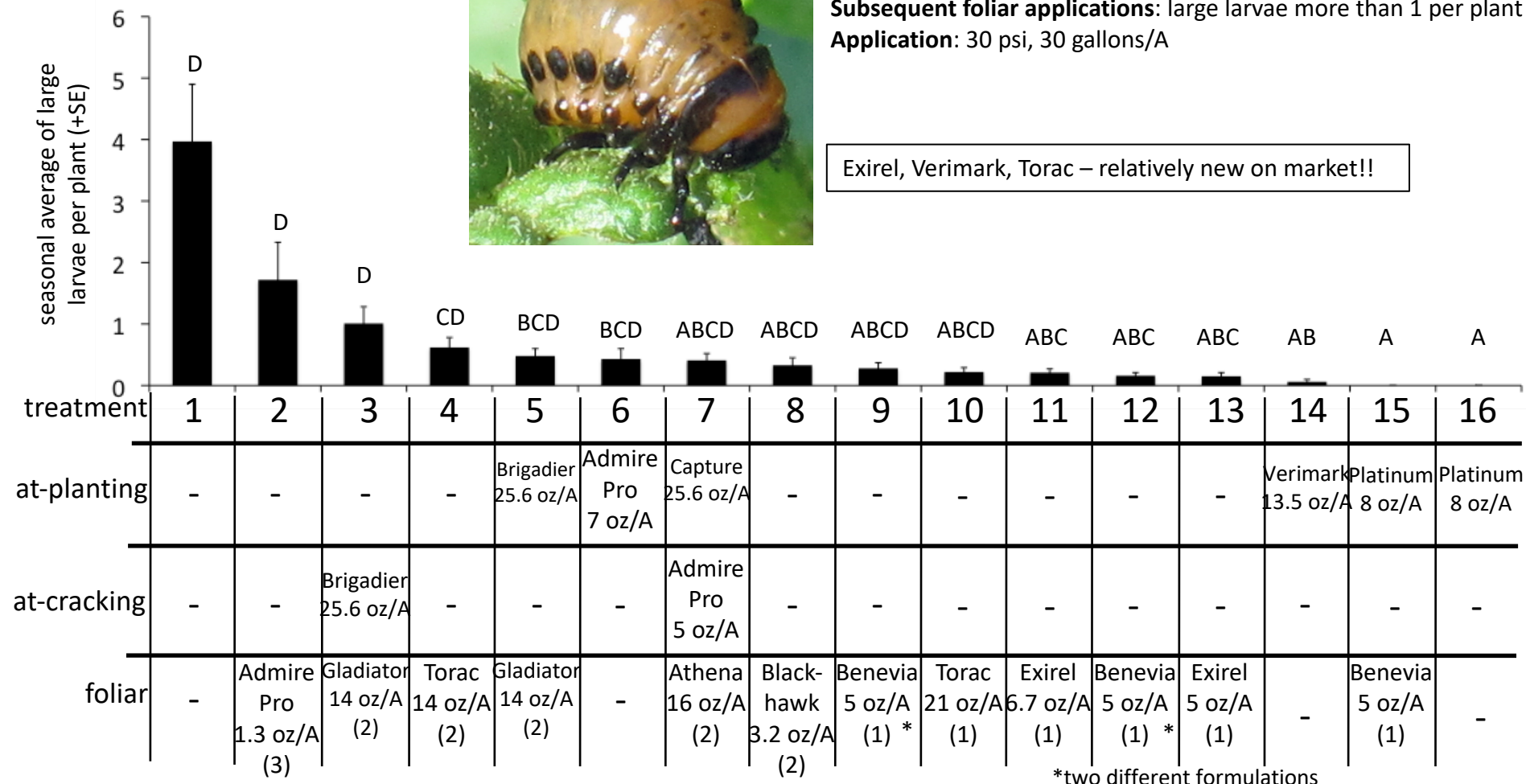
Potato planting: May 23, 2013

First foliar application (50% egg hatch): June 28, 2013

Subsequent foliar applications: large larvae more than 1 per plant

Application: 30 psi, 30 gallons/A

Exirel, Verimark, Torac – relatively new on market!!



Note: Numbers in parentheses are the number of foliar applications needed to keep first generation CPB below threshold.

Bars with the same letters are not statistically different from each other.