

Logistics of SWD management: a field perspective



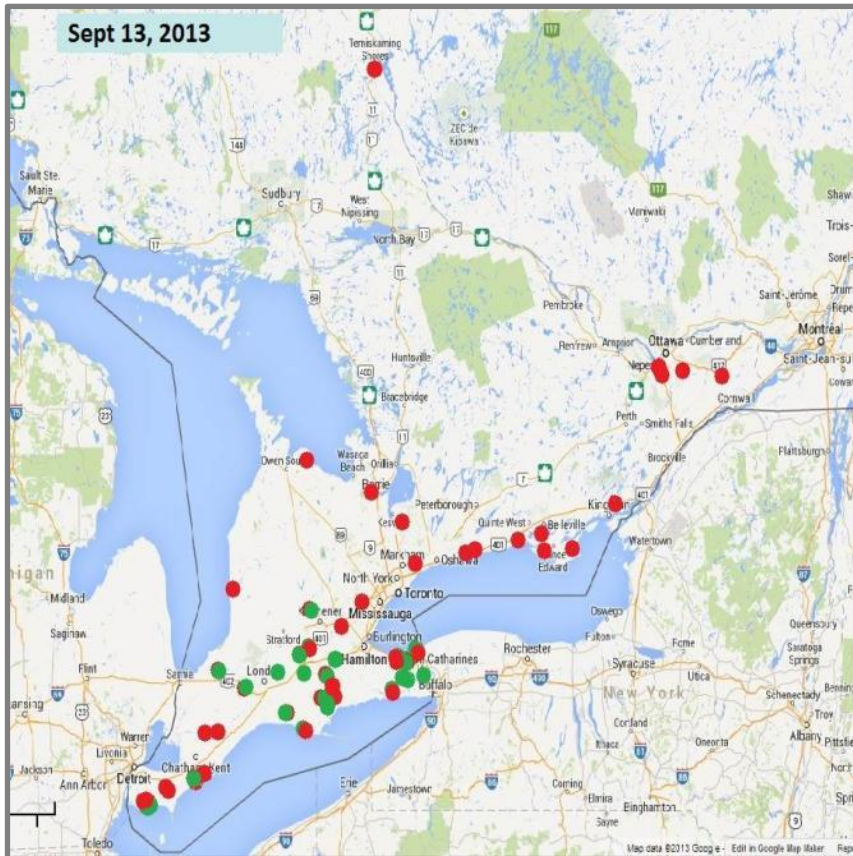
Pam Fisher, berry crop specialist

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Hannah Fraser, entomology program lead

Monitoring for SWD 2011-2013

Representative sites across Ont.

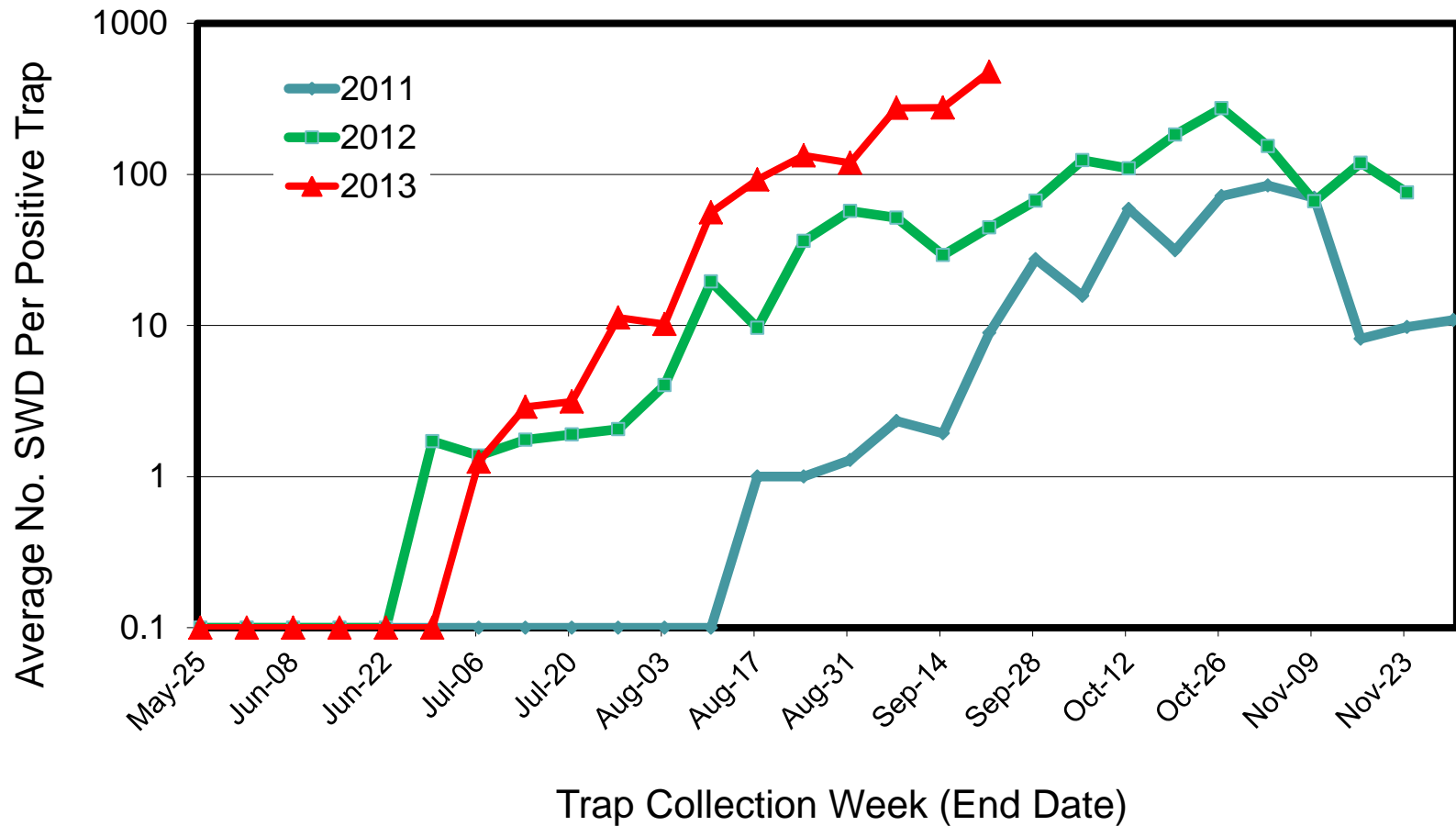


Apple cider vinegar baited traps...
not always consistent from year to
year or site to site

When to start spraying ?

when flies are present and crop is susceptible

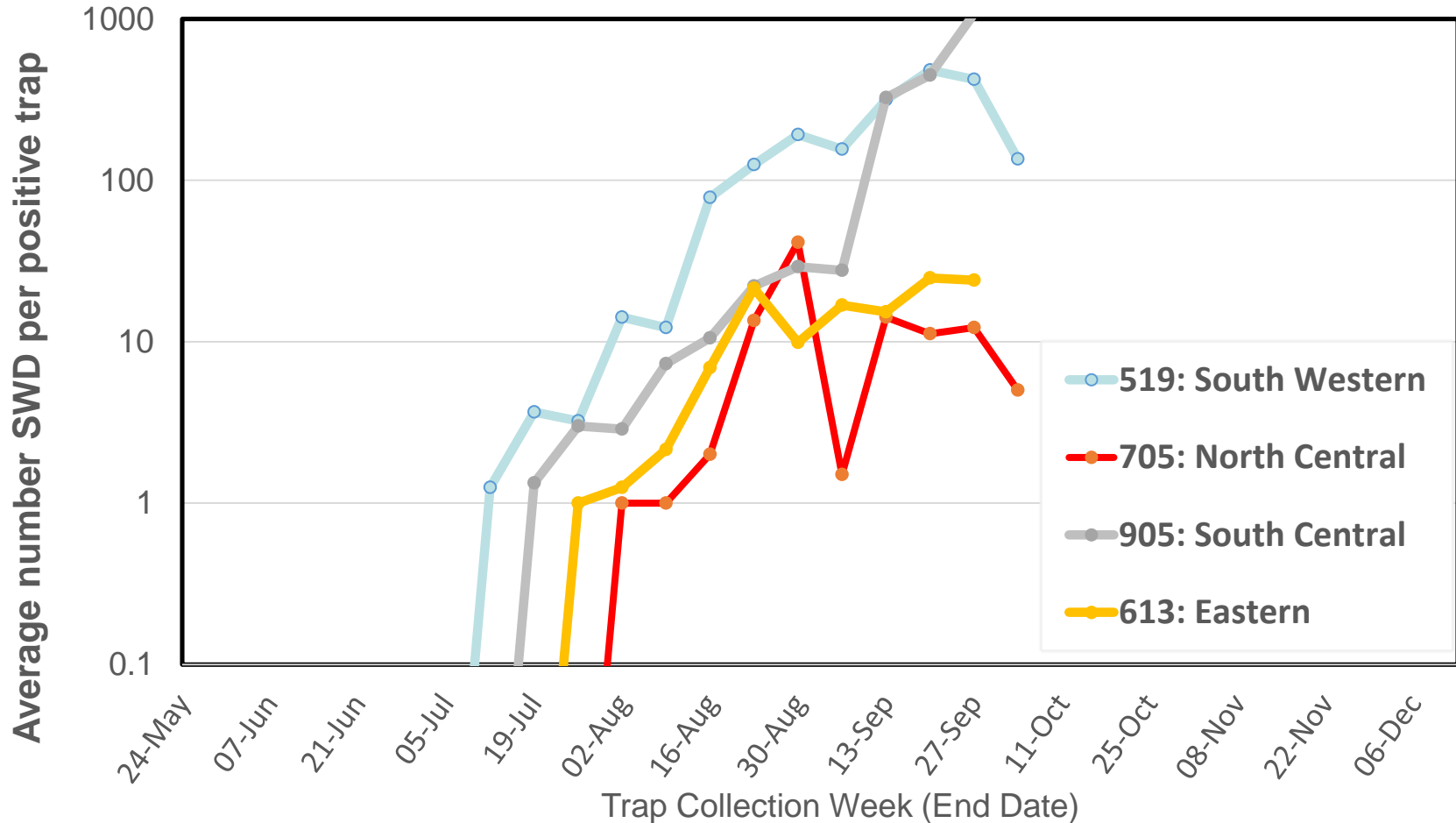
Average SWD Trap Catches (2011 - 2013)



When to start spraying ?

when flies are present and crop is susceptible

SWD Captures by Region



Do trap catches relate to fruit infestation?



Salt water test.
Immediate results
But hard to see small larvae
Not all larvae are SWD



Incubate @ 50 fruit (depends) for
2-3 weeks, collect, and count
emerging flies 2-3 times per
week.
Takes time.

First SWD reared from fruit, southwestern Ont. 2013

Date collected	Type of fruit collected
July 1	Wild raspberries
July 2	Unsprayed saskatoons
July 9	Sweet cherries
July 18	Summer-bearing red raspberries
July 19	Wild mulberry
July 29	Fall bearing raspberry
August 7	Blueberry

First trap captures week of July 6 -July 12 in southwestern Ontario

Salt test vs rearing SWD flies (site #22)

sample size 50 fruit

Date collected	Crop	# larvae in salt test	# SWD flies emerged
02-Jul	Summer Raspberry	0	0
08-Jul	Summer Raspberry	0	0
15-Jul	Summer Raspberry	0	0
29-Jul	Summer Raspberry	1	13
29-Jul	Fall Raspberry	1	9
06-Aug	Summer Raspberry	0	261
12-Aug	Summer Raspberry	10	91

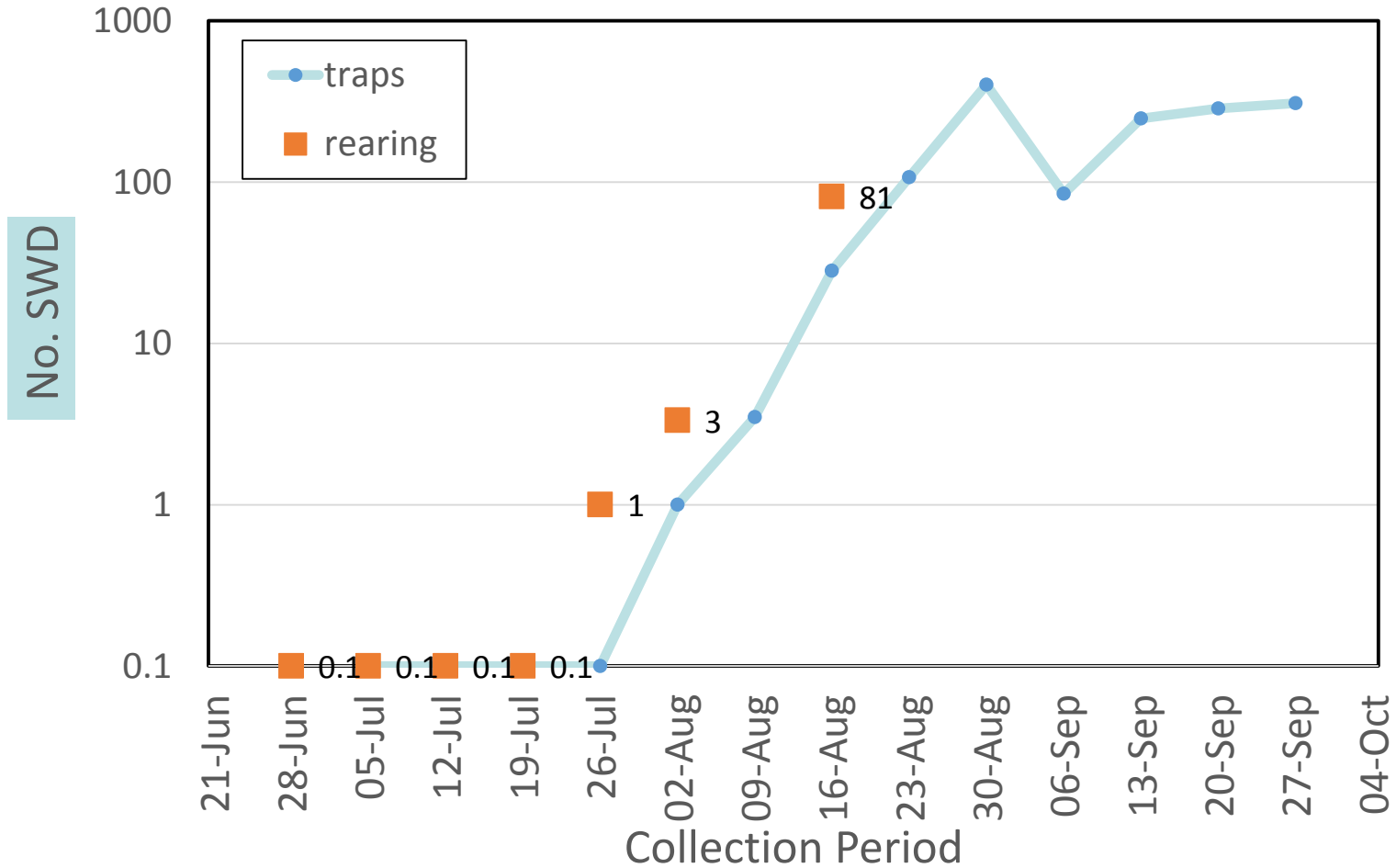
Salt test vs rearing SWD flies (site #74)

sample size 50 fruit

Date collected	Crop	# larvae in salt test	# SWD flies emerged
10-Jul	Blueberry	0	0
17-Jul	Blueberry	0	0
24-Jul	Blueberry	0	0
24-Jul	Blueberry	0	0
30-Jul	Blueberry	0	0
07-Aug	Blueberry	8	135
13-Aug	Blueberry	10	33
20-Aug	Blueberry	0	10
20-Aug	Blueberry	5	27
20-Aug	Blueberry	0	1
27-Aug	Blueberry	1	80
27-Aug	Blueberry	1	8

Trap Catches Vs Rearing Results - Site 25

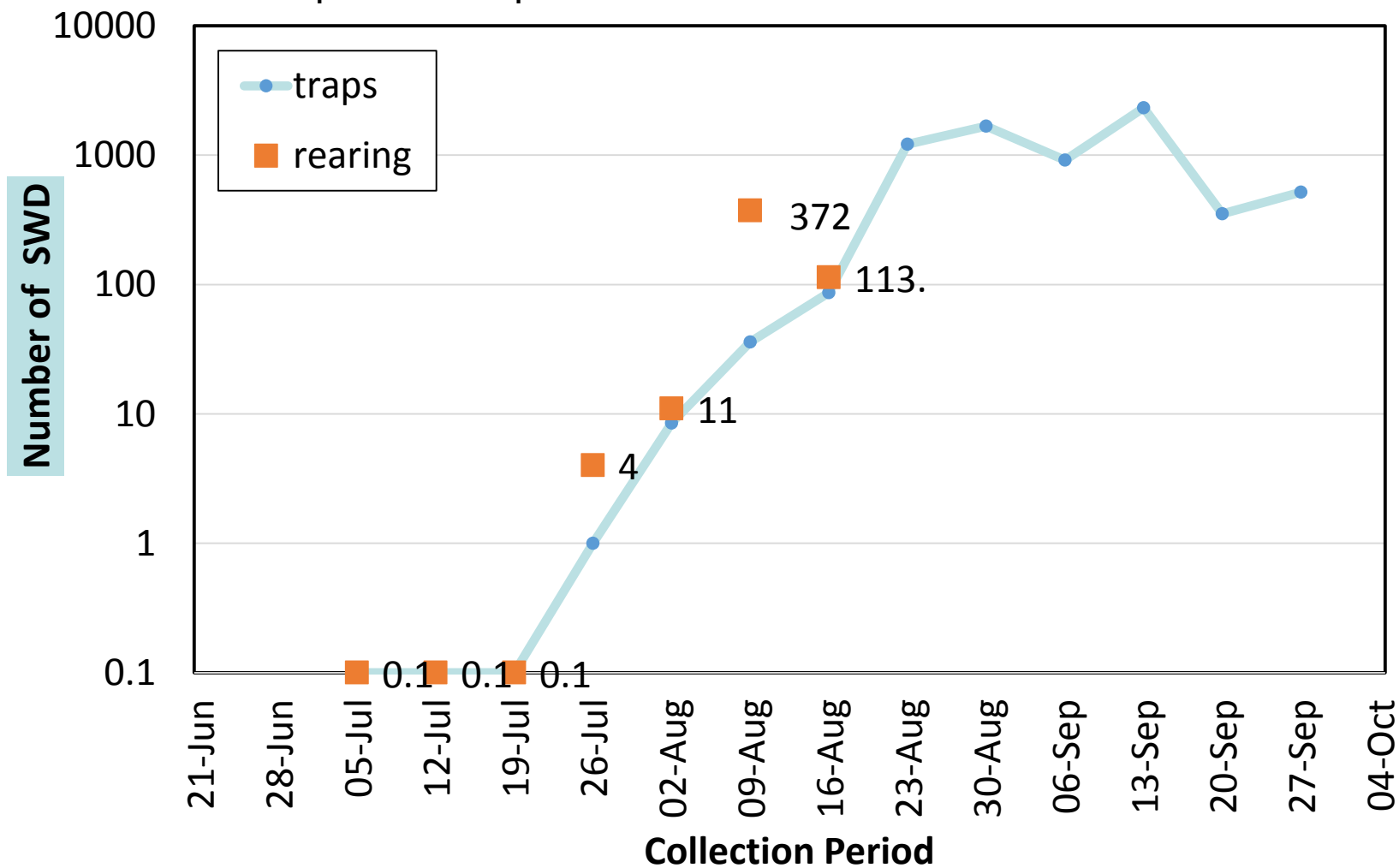
flies / positive trap vs # flies reared/50 fruit SUMMER RASPBERRIES



How do SWD trap captures relate to fruit infestation?

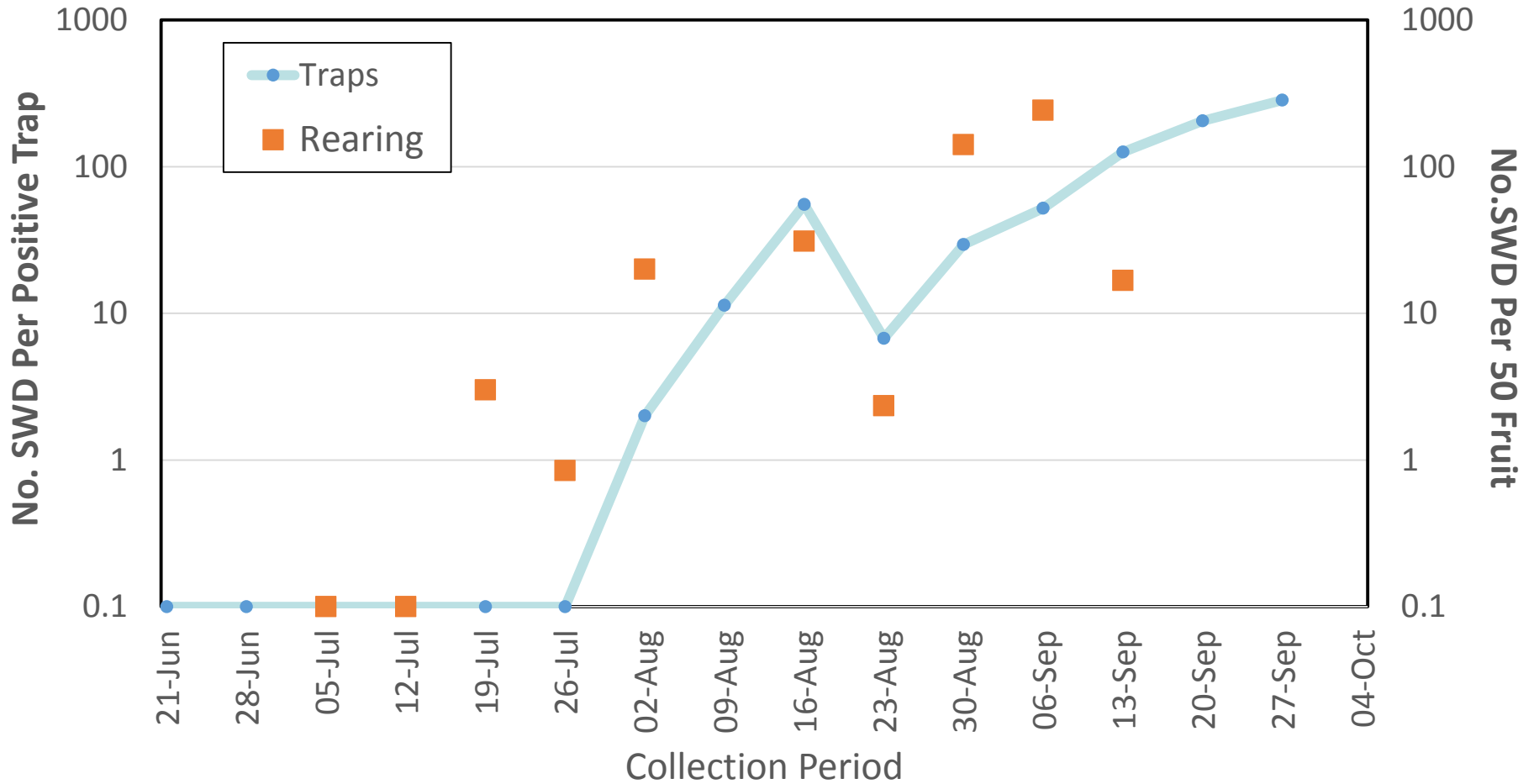
Trap Catches Vs Rearing Results - Site 22

flies/positive trap vs # flies reared/50 fruit RASPBERRIES



Trap Catches Vs. Rearing Results - Site 14

flies / positive trap vs # flies reared/50 fruit RASPBERRIES



Insecticide options for SWD in Ontario 2013

Product	Pre-harvest interval	Max # applications
Ripcord	2 days	2
Malathion 85E	1 day raspberries	2
	3 days strawberries	2
	3 days blueberries	3
Delegate WG	1 day raspberries	3
	1 days strawberries	3
	3 days blueberries	3
Entrust SC	1 day raspberries	3
	1 days strawberries	3
	3 days blueberries	3

Growers comments

- *“Spraying puts us behind on harvesting due to phi.... = more over-ripe fruit”*
- *“Shutting down for 3 days after a each weekly spray application (due to pre-harvest interval) means having to harvest everything in ½ the time.”*
- *“I need to buy an extra sprayer dedicated to my berry crops.....”*

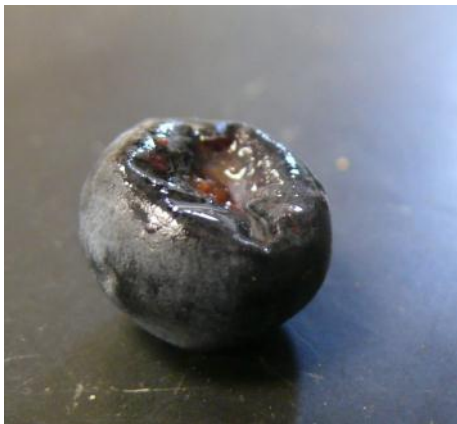
Adapting to life with SWD

more comments from growers.....

- change harvest schedules: daily or every 2nd day (*works for raspberries and strawberries, not blueberries*)
- removing some crop rows for better sprayer access
- planning block size and location... for better drift control
- reduce acreage of berry crops
- alternate year production in raspberries
- end harvest early (blueberries.... two-three weeks earlier)
- avoid planting late varieties

Conclusions

- SWD is well established in Ontario
- Regional monitoring with traps and fruit sampling can help identify key periods for control
- Current strategies for control are not sustainable, practical or effective.



Acknowledgements

- Ontario Berry Growers Association (2012-13)
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- Bayer Crop Sciences (2013)
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