

2013 NYS SMALL FRUIT IPM ACTIVITY SUMMARY

Northeast IPM Small Fruit
Working Group Meeting
Fairlee, Vt., October 1, 2013



SWD RELATED PROJECTS

- ◉ Monitoring/early detection of adult SWD
- ◉ Alternative hosts and landscape effects
- ◉ Chemical control of SWD
- ◉ Testing of alternative lures for adult traps
- ◉ Fixed sprayer system in HT's to control SWD
- ◉ Use of exclusion netting to manage SWD in blueberries
- ◉ Interactions between SWD and other *Drosophila* species and sour rot in grapes
- ◉ Overwintering success of SWD
- ◉ Assessment of bacterial gut symbionts of fruit-infesting *Drosophila*
- ◉ Evaluation of potential chemical disrupters against SWD adults
- ◉ Preliminary field assessments of reflective plastic mulch to reduce SWD infestation in DN strawberries



ONGOING IPM PROJECTS UNRELATED TO SWD

- ◉ Relationship between plant diversity and pollination and biological control in strawberry production
- ◉ Japanese Beetle-entomopathogenic nematode project
- ◉ Grape leafroll disease and grape mealybug control
- ◉ Grape Berry Moth Biology and Management
- ◉ Breakdown of immunity to WPBR in black currant cultivars
- ◉ Powdery mildew research
- ◉ Bird damage assessment research

ADDITIONAL SMALL FRUIT PROJECTS/ACTIVITIES INCLUDE:

- ◉ High Tunnel Production of Raspberries and Blackberries incl. production practices and cultivar evaluation
- ◉ Day Neutral Strawberries and Low Tunnel Production
- ◉ Berry Fertility Project - Grower/Educator Guide and website will be available in 2014
- ◉ Berry Farm Business Mgmt. Summary project
- ◉ Planting date and cultivar assessment of DN strawberry varieties
- ◉ Juneberry production work
- ◉ Elderberry cultivar assessments
- ◉ Weekly Berry Call
- ◉ Sprayer calibration workshops
- ◉ Berry Pruning workshops and tours
- ◉ Cooling grant project
- ◉ Continued support with GAP's certification

BIO-CONTROL FOR BLACK VINE AND STRAWBERRY ROOT WEEVIL



5/7/13





Earliest damage starts in large patches, see inside yellow circle

5/7/13



6/26/13



9/27/13



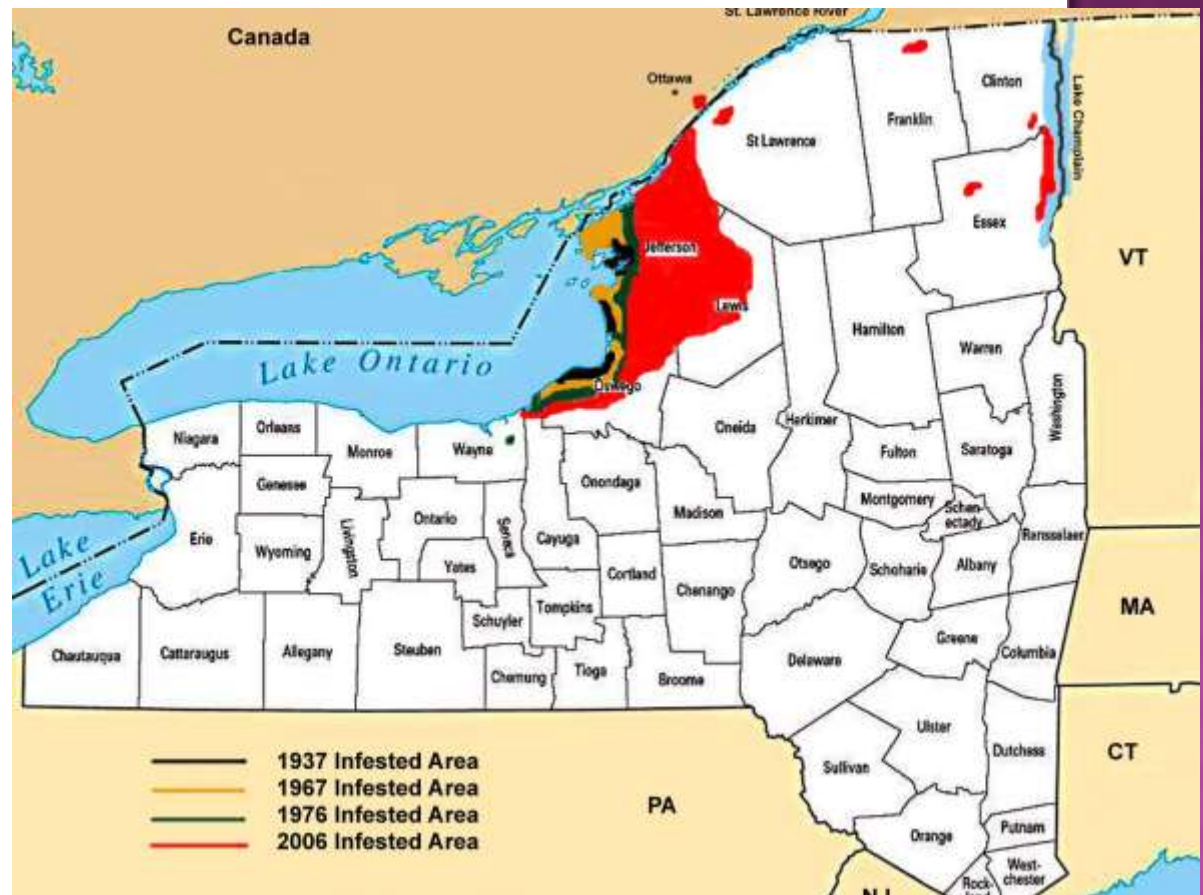
3 WEEVIL GRUBS, 1 JB
GRUB
5/7/13



ALFALFA SNOUT BEETLE INFESTED AREAS IN NORTH AMERICA

Elson Shields
Prof of Entomology

Tony Testa
Research Support
Specialist



REARING NEMATODES IN THE LAB OR ON THE FARM

WAXWORMS ARE
INFECTED WITH
NEMATODES



2 species of nematodes
collected from farms in
NNY

Steinernema carpocapsae
(SC) and *S. feltiae* (SF)

*Have persisted >7 years
under field conditions in*



Before field application, nematodes are washed from the waxworms and sawdust



FILTERED TWICE TO AVOID
CLOGGING BOOM SPRAYER.





Nozzles and screens are removed from sprayer.

First application to strawberries was made 9/5/13

Samples will be taken in mid October



CRANBERRY APPLICATION

- ◉ An upland production system in the snow belt of Lake Ontario has BVW.
- ◉ May 2012, cranberry grower reared 64 billion infective nematodes and treated 160 acres at 400 million per acre at a cost of \$120 per acre for the nematodes.
- ◉ August 2012, nematodes persisting at high levels and adult weevil numbers had dropped.
- ◉ May 2013, 4800 core samples taken. BVW larvae found in <1% of the samples and nematodes were found persisting at moderate to high levels in all sample locations, 365 days after application.
- ◉ July 2013, evening sweeping for adult BVW failed to collect a single adult across the entire farm.
- ◉ In alfalfa fields across NNY, these nematodes persist for more than 7 years under field conditions. **The question is whether they will persist in a cranberry field in a similar manner.**

EXCLUSION NETTING IN BLUEBERRIES





FIXED SPRAYER SYSTEM



HONEYBERRY/JUNEBERRY NURSERY



HONEYBERRY (HASKAP) FRUIT PROBLEM?



JUNEBERRY LEAF PROBLEMS



JUNEBERRY FRUIT PROBLEM!?!



LEAF DAMAGE ON JUNE BERRY?



JUNEBERRY JAPANESE BEETLE DAMAGE



JUNEBERRY FIRE BLIGHT



ELDERBERRY LEAF SPOT?



ELDERBERRY LEAF SPOT?



ELDERBERRY VIRUS?



RASPBERRY LEAF SPOT OR ANTHRACNOSE?



BLACK RASPBERRY PROBLEM



HT
STRAWBERRY
FRUITING
STEMS BENDING



STRAWBERRY WEED PROBLEM



STRAWBERRY CHLOROSIS



STRAWBERRY PHYLLLODY



STRAWBERRY APHID?



STRAWBERRY LEAF PROBLEM?



MESOTRIONE INJURY?



STRAWBERRY LEAF PROBLEM?



LEAF BLOTCH?



GREEN PETAL MLO



FLOPPY BLUEBERRY FOLIAGE





BLUEBERRY CANCKER?



GALLS ON LOWBUSH BLUEBERRY LEAVES











BLUEBERRY PROBLEM?





BLUEBERRIES , FROST



BOTRYTIS IN BLUEBERRIES



CICADA DAMAGE TO BLUEBERRIES



INVASIVE SPECIES







CONTRIBUTORS INCLUDE:

- ◉ Marvin Pritts
- ◉ Greg Loeb
- ◉ Kerik Cox
- ◉ Courtney Weber
- ◉ Cathy Heidenreich
- ◉ Amy Ivy
- ◉ Jeff Miller
- ◉ Jim O'Connell
- ◉ Emily Klamberg
- ◉ Laura McDermott
- ◉ All Berry Call-In participants!