Mastering Vinegar Fly and Spotted Wing Drosophila Management in Strawberry

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Spotted wing drosophila *Drosophila suzukii*

Photo courtesy Martin Hauser CDFA
Spotted Wing Drosophila
Spotted Wing Drosophila Larva
Vinegar fly – *Drosophila simulans*
Vinegar flies
Vinegar Fly Egg Mass
Vinegar fly egg
Vinegar fly eggs
Unripe fruit
The Problem of Vinegar Flies
Control measures

• Organophosphates
• Pyrethroids
• Spinosyns
• Pyganic?
2013 Predaceous Nematode, *Steinernema carpocapsae*, Trial – Raspberries
Application 9/30/2013 and 10/6/2013 @ 100 gal/A

- Exiral 5E – 20 fl oz
- Double Take 5.3 fl oz
- Mycotrol + Kinetic 3 qt
- Predaceous nematodes 25 million per acre
Evaluation

Sampling with Buc – vac over 18 foot long hedgerow 1x a week.
Trial work 2013
Total number of flies counted in study
Predaceous nematode trial 2014
Funded by North American Strawberry Growers Association
Application 9/11/2014 and 9/19/2014 at 100 gal/A

• Brigade 16 oz
• *Steinernema carpocapsae* 250 million
• *Steinernema carpocapsae* 2 billion
• Mycotrol 3 qt + Molex
• Mycotrol 3 qt + *S. carpocapsae* 250 million
Compare two treatments in T-test

- S. carpocapsae 2 billion
- Untreated control

Post App 7 days
Total egg counts (5 sampling dates)

- Mycotrol @ 3 qt +... (bc)
- S. carpocapsae 250... (a)
- S. carpocapsae 2 bill (ab)
- Mycotrol @ 3 qt (c)
- UTC (c)
- Brigade @ 16 oz (c)

Total egg counts
Brief Diversion into Lygus

- Brigade @ 16 oz
- UTC
- Mycotrol @ 3 qt
- S. carpocapsae 2 bill
- S. carpocapsae 250 mill
- Mycotrol @ 3 qt + S. carpocapsae 250 mill

Dates:
- 9/23/2014
- 9/29/2014
- 9/8/2014
Conclusion

• Use of *Steinernema carpocapsae* interesting and merits further investigation.
• Strawberry growers should strive to avoid any injury to fruit in the field.
• Most importantly, growers must realize the implications of even a delay of one day in harvesting strawberries.