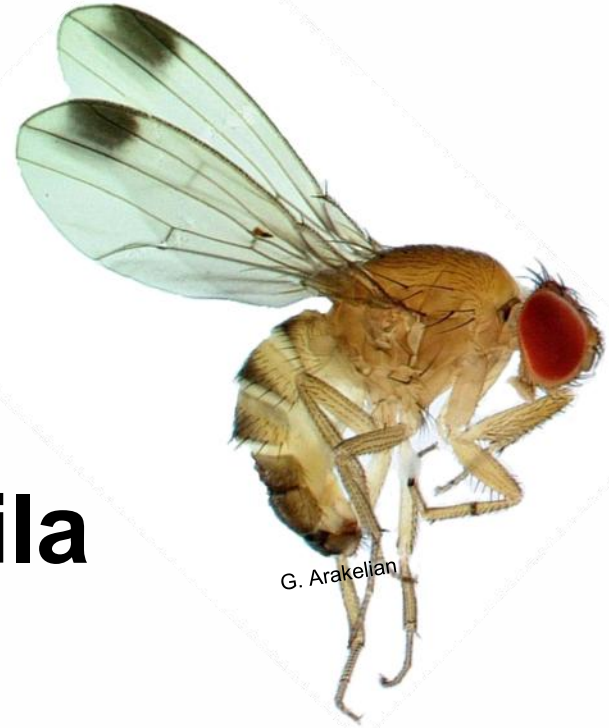


**Spotted Wing Drosophila
(*Drosophila suzukii*):
A new pest of blueberries
in New Jersey**



On-going projects

- Test the efficacy of different classes of insecticides.
- Test new attractants and trapping systems.
- Study the spatial distribution of SWD in blueberry farms.
- Sanitation as a cultural method to reduce SWD.



Importance of Sanitation

- Fruit on ground can be a source of SWD.
- Sanitation can be an important cultural control for SWD management.
- Used in other crops to control grape flea beetle, plum curculio, tobacco hornworm, etc.
- Disking recommended for mummy berry and gall midge control in blueberries.



Importance of Sanitation

- When blueberry fruit on ground become infested by SWD is unknown.
- What to do once blueberries on the ground are infested is also unknown.



Research objectives

- Determine seasonal preference of SWD for berries on the bushes or berries on the ground.
- Determine differences in preference between blueberry cultivars.
- Investigate whether burying the berries prevents SWD adult emergence.



Does SWD prefer berries on the bushes or berries on the ground?



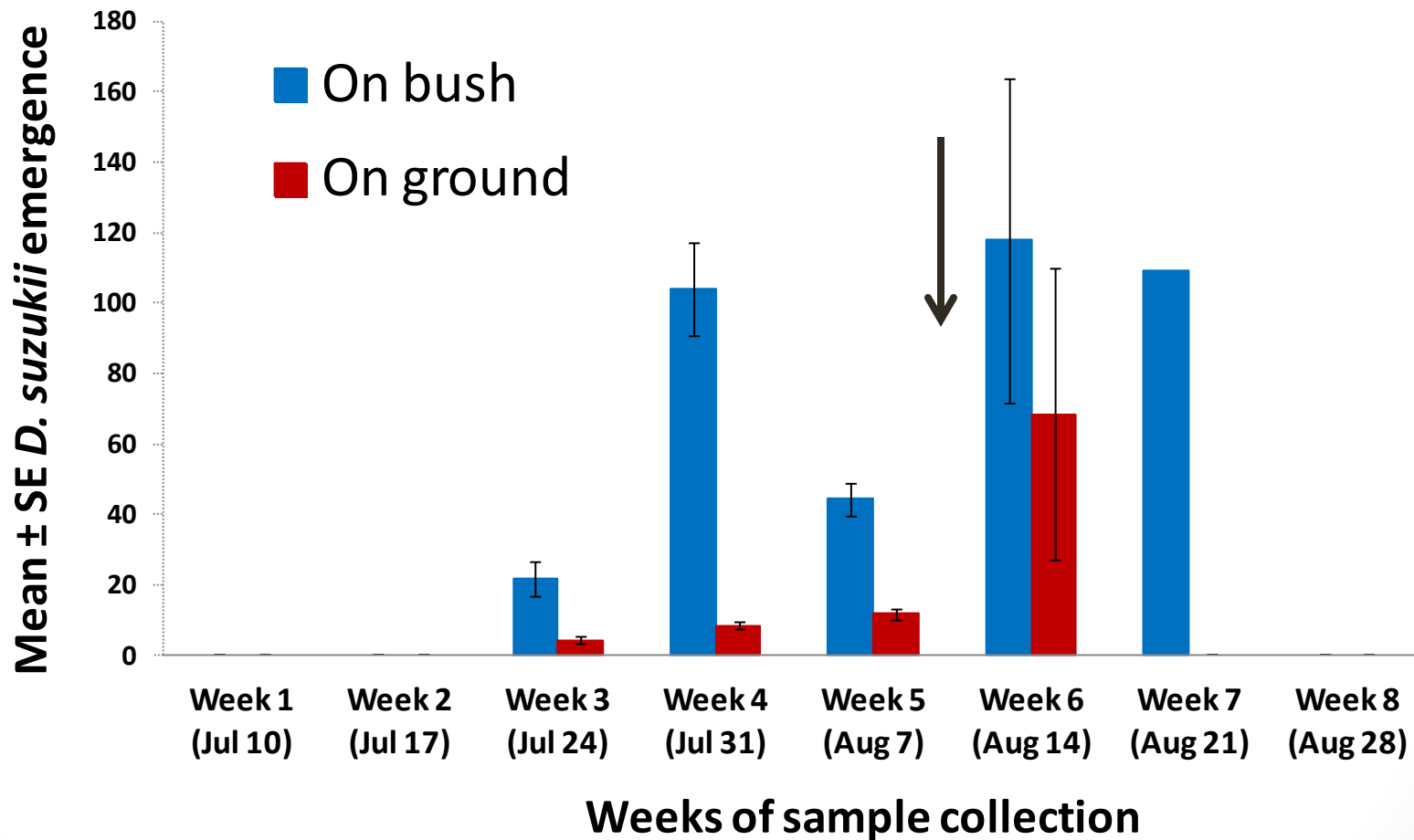
Methods



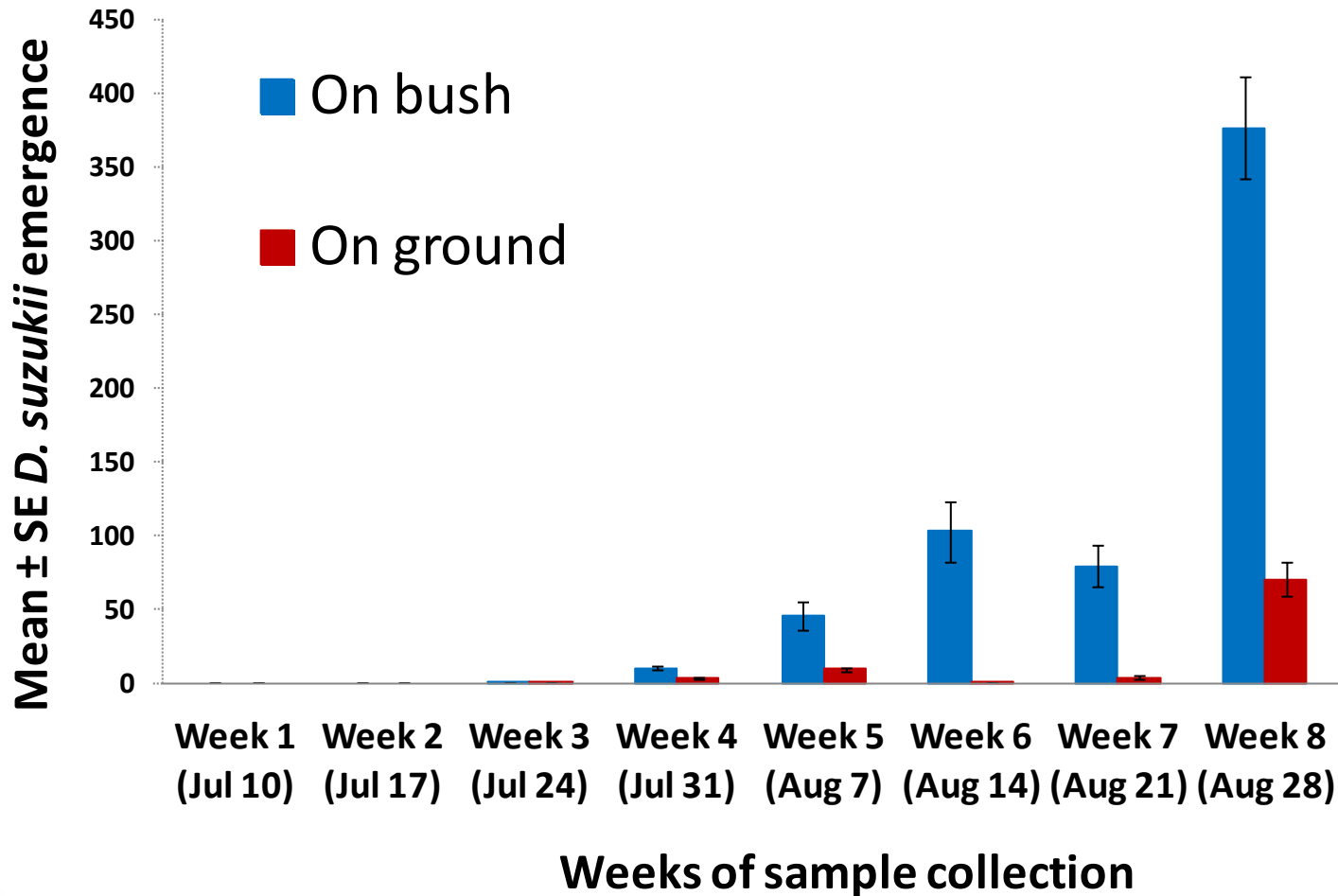
Photo: J. Abraham



Oviposition preference on Bluecrop



Oviposition preference on Elliott



Conclusions

- There is a clear preference for berries on the bushes over berries on the ground.
- However, in Bluecrop the preference disappears later in the season.



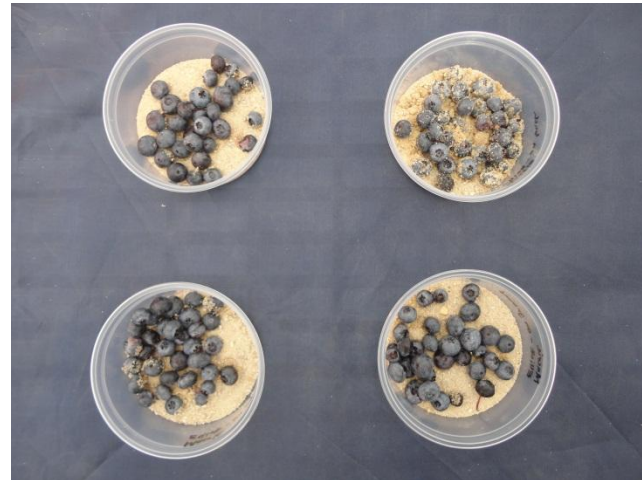
Does SWD prefer berries on the bushes or fallen berries?

Do flies prefer to oviposit on Bluecrop or Elliott blueberries?

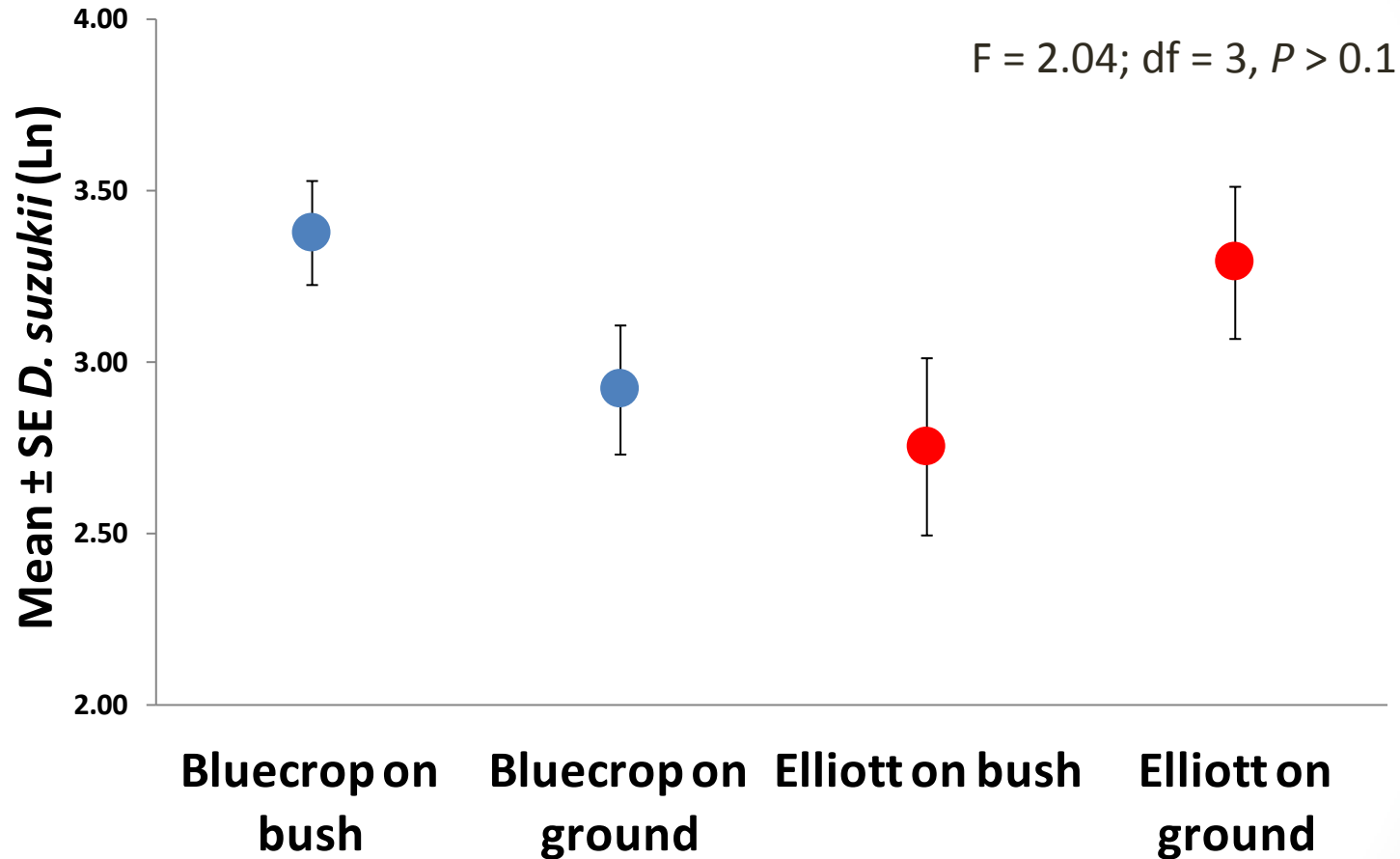


Methods

- 20 female and 10 male (5-6 day old) *D. suzukii* were exposed to the berries for 48 h.
- Complete randomized block design.
- 20 blocks (cages)



Emergence of adults: by cultivar and site

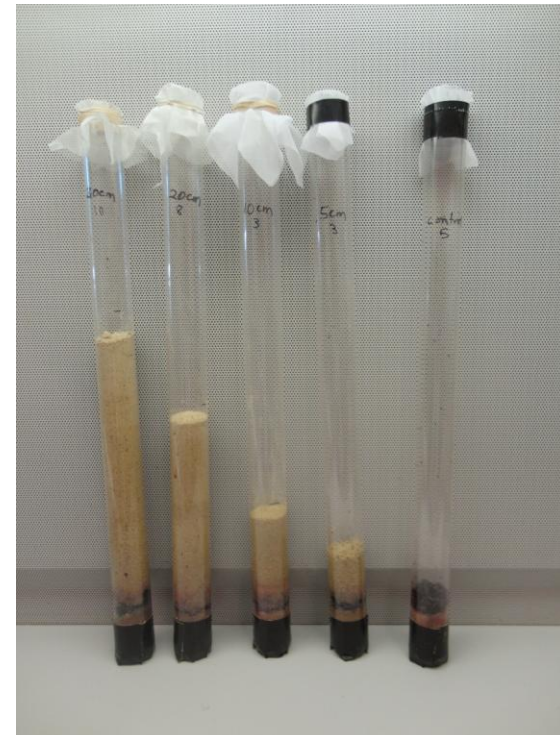


How can growers reduce SWD populations on ground?

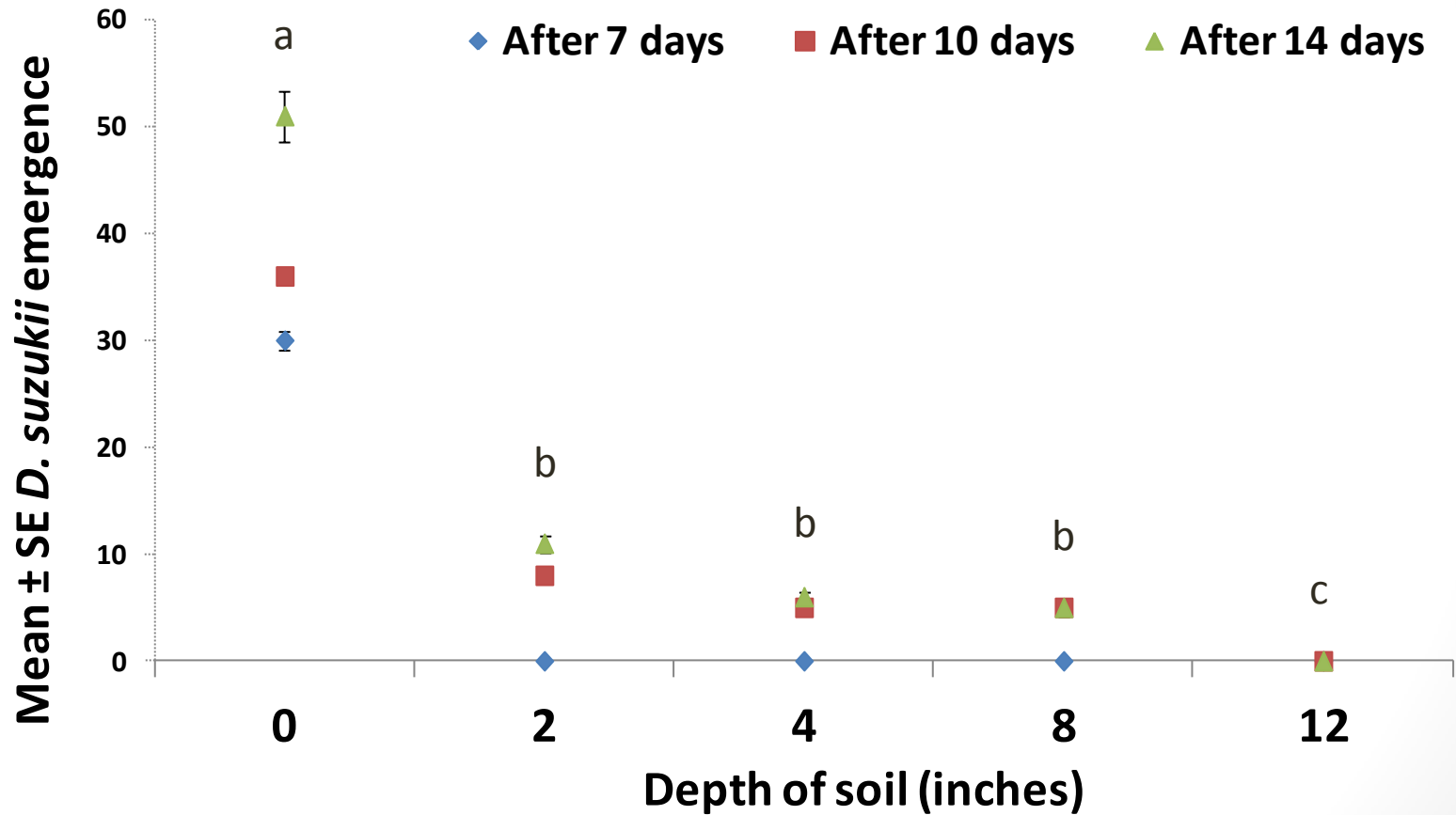


Methods

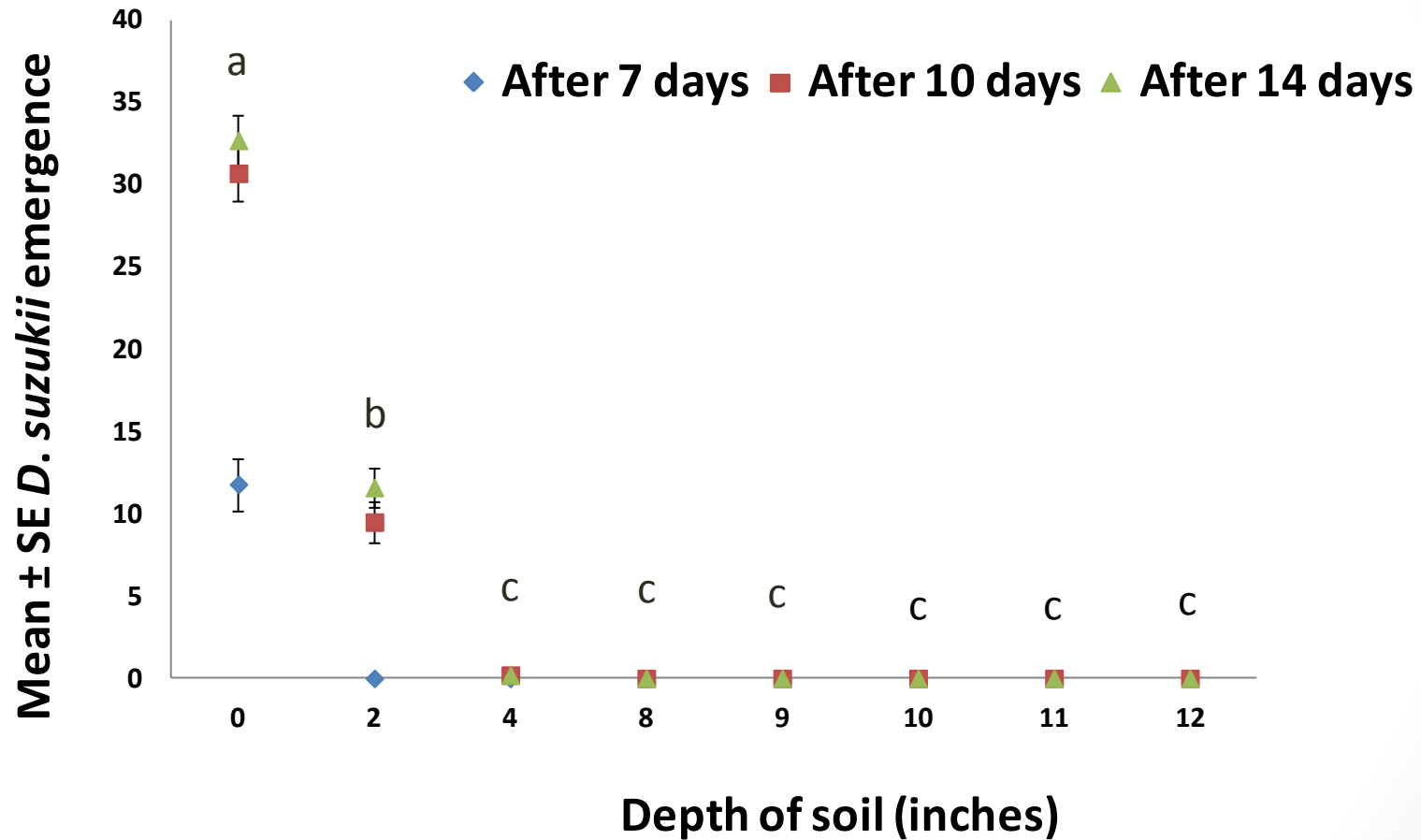
- Exposure of berries to *D. suzukii* for 72 h.
- Buried under 5 cm, 10 cm, 20 cm and 30 cm of soil.
- Controls had no soil.



Emergence of *D. suzukii* from buried infested berries



Repeated experiment



Summary

- SWD clearly prefers berries on the bushes than on the ground.
- There is no clear preference between Bluecrop and Elliott blueberries.
- Burying fallen berries could reduce the population of SWD in blueberry farms.



Importance of Sanitation

- When
In Bluecrop, between August 7-14.
- What to do
Disking to bury berry 2-4 inches below ground will reduce SWD emergence by 70-100%.



Acknowledgements

- John Abraham. Visiting Student. Piazza Università.
- Zachary Bryceland.
- New Jersey Blueberry & Cranberry Research Council.



SWD at RAREC

- Peaches (Harrow Beauty)
 - Aug 8, 2012
 - 10 fruit/tree, 9 unsprayed trees
 - 4.33 ± 2.75 larvae (salt float)

- Grapes
 - Vinegar traps
 - Exclusion bags
 - Weekly collections of clusters
 - Larvae
 - Adult emergence

	Larvae	SWD	Drosophila
Chambourcin	2.00	0.00	5.63
Chardonnay	0.00	1.00	6.38
Merlot	3.67	0.88	7.25
Traminette	8.00	0.38	3.75