



# Managing Thrips in Florida Strawberry

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# Field Trials 2013-14 and 2014-15 Strawberry Seasons – GCREC

## Objectives

1. Identify thrips species associated with strawberry
2. Evaluate
  - i. impact of insecticide rotations on thrips species, number
  - ii. alternatives to spinetoram

2015 Identify thrips species collected from green and pink fruit

## Materials evaluated 2013-14 and 2014-15 - GCREC

Trade name	Active Ingredient	IRAC MoA Code
Brigade	bifenthrin	3A
Assail	acetamiprid	4A
Closer	sulfoxaflor	4C
Radiant	spinetoram	5
Rimon	novaluron	15
Apta*	tolfenpyrad	21A
Exirel*	cyantraniliprol e	28

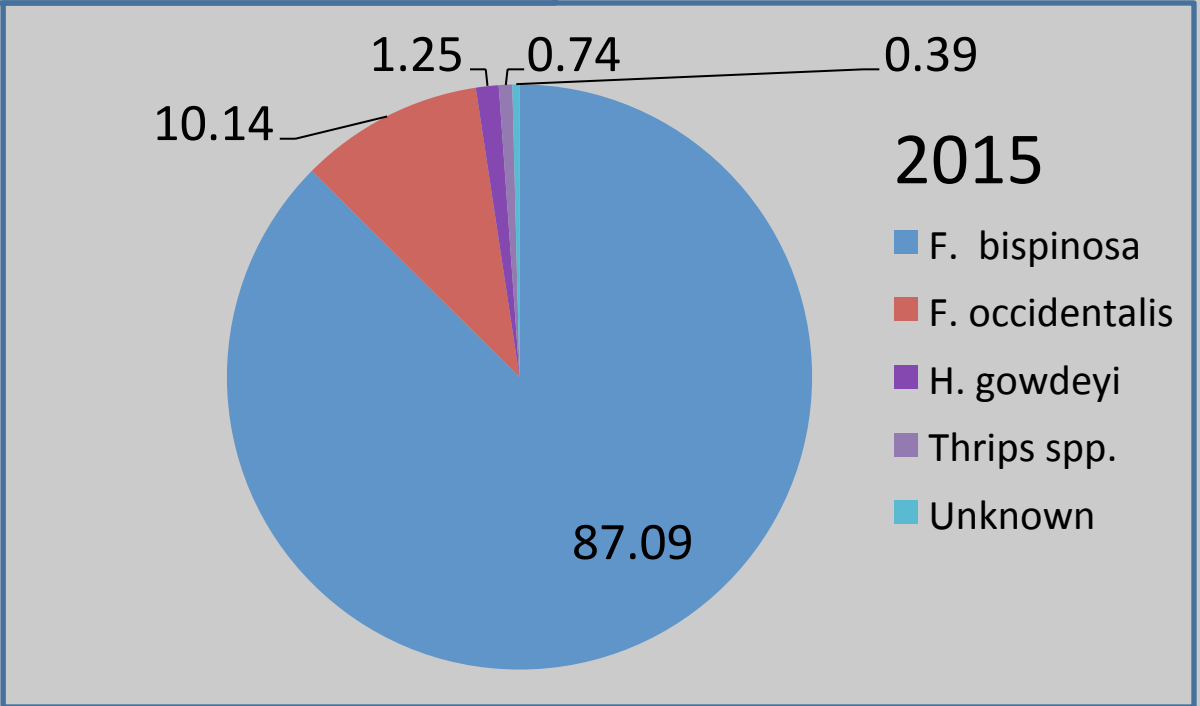
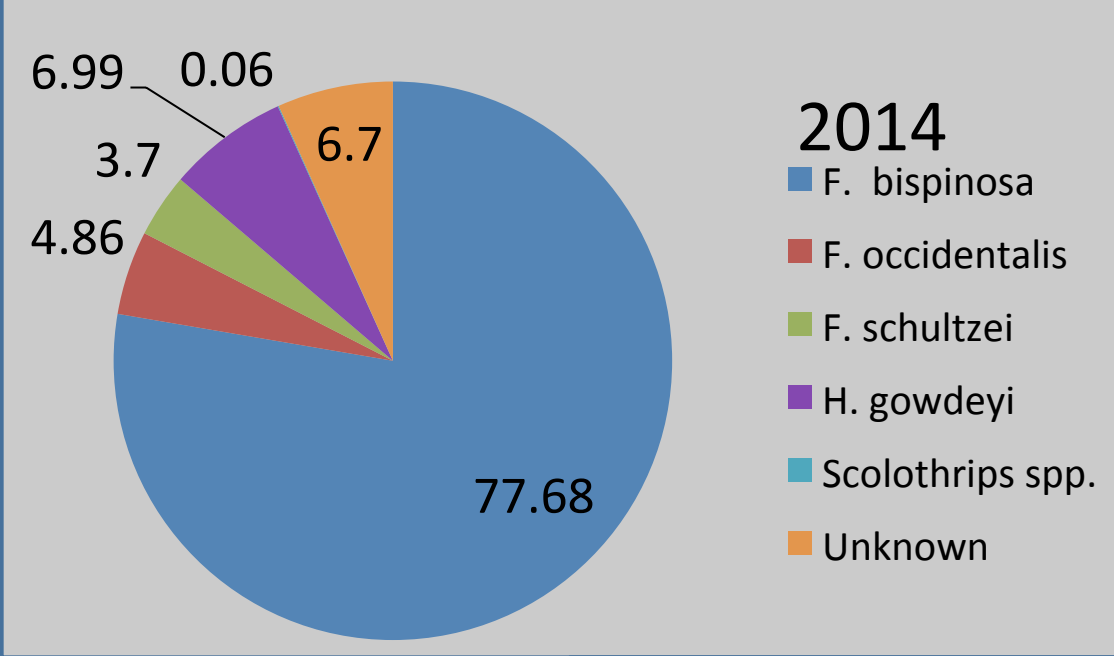
\*Not yet labeled for strawberry

# Rotations evaluated 2013-14 and 2014-15 - GCREC

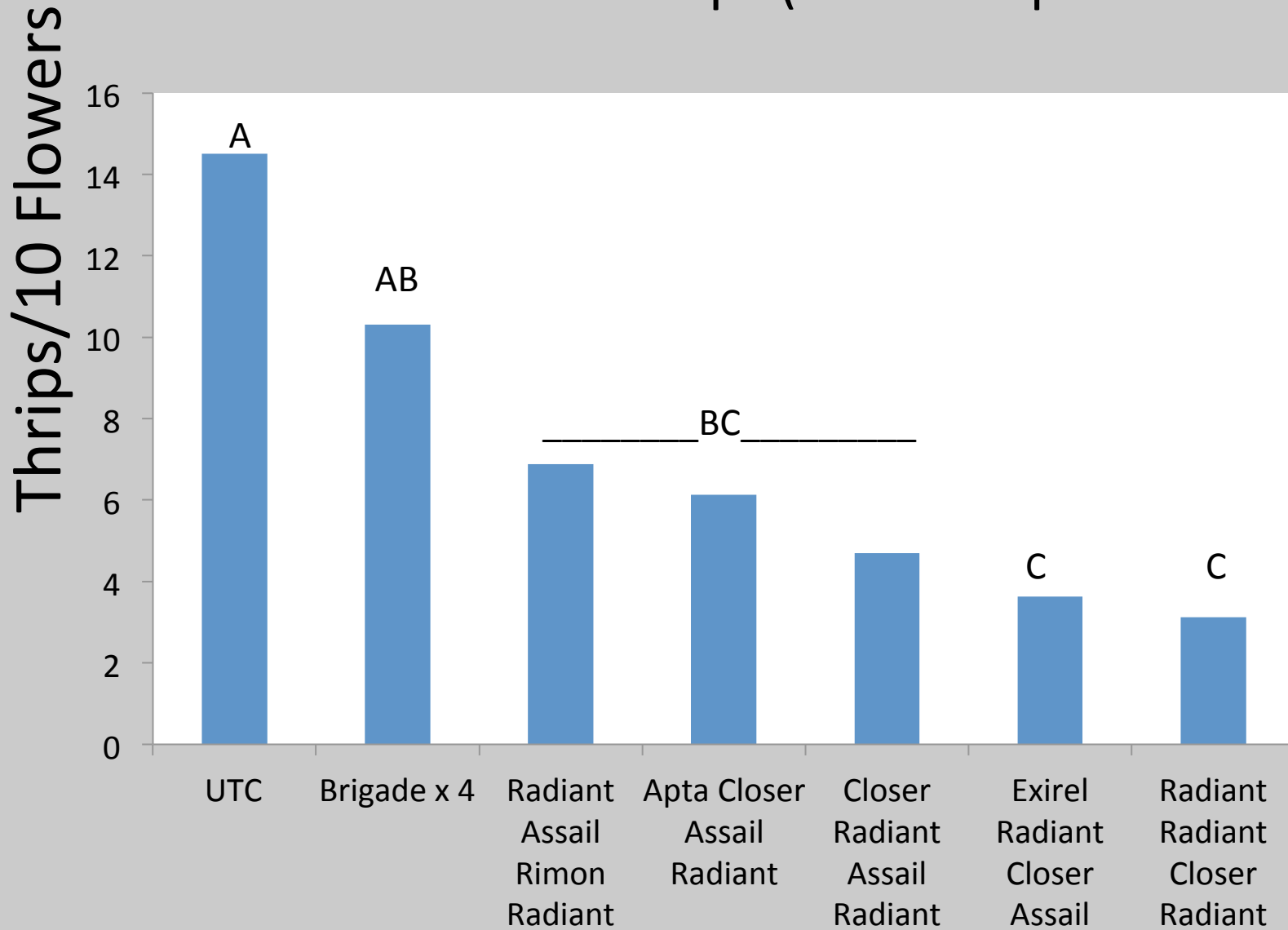
	Week 1	Week 2	Week 3	Week 4
1	None	None	None	None
2	spinetoram	spinetoram	sulfoxaflor	spinetoram
3	spinetoram	acetamiprid	novaluron	spinetoram
4	sulfoxaflor	spinetoram	acetamiprid	spinetoram
5	cyantraniliprole	spinetoram	sulfoxaflor	acetamiprid
6	tolfenpyrad*	sulfoxaflor	acetamiprid	spinetoram
7	bifenthrin	bifenthrin	bifenthrin	bifenthrin

\*Not labelled for strawberry

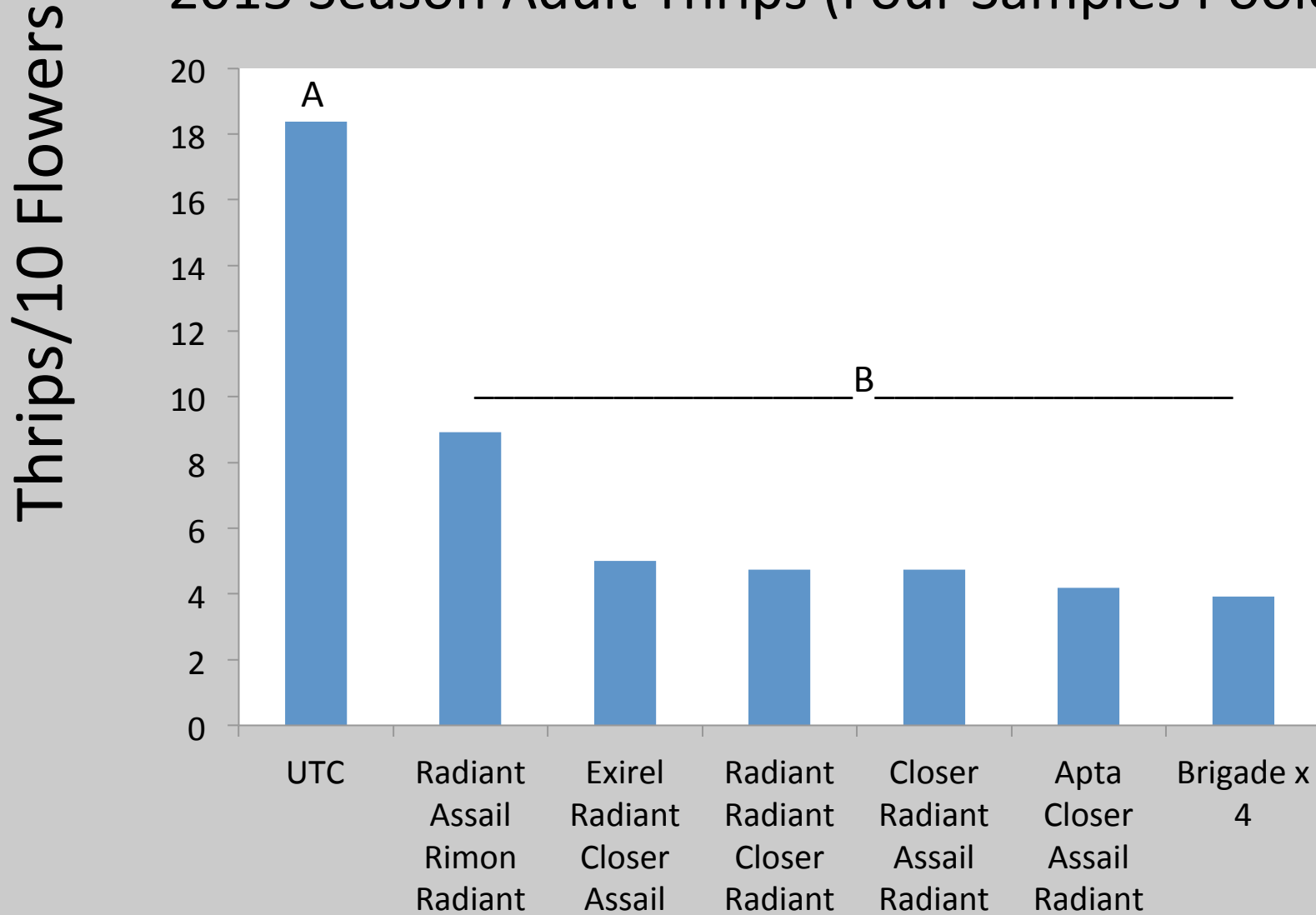
# Thrips Species: Strawberry Flowers – UTC



# 2014 Season Adult Thrips (Four Samples Pooled)



# 2015 Season Adult Thrips (Four Samples Pooled)



# Year \* Treatment Interaction not significant for Florida flower thrips and Western flower thrips

## *F. bispinosa*

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Rep	3	5.1131236	1.7043745	1.65	0.1788
Year	1	2.5908186	2.5908186	2.51	0.1147
Trt	6	118.5963557	19.7660593	19.15	<.0001
Year*Trt	6	5.2384198	0.8730700	0.85	0.5360

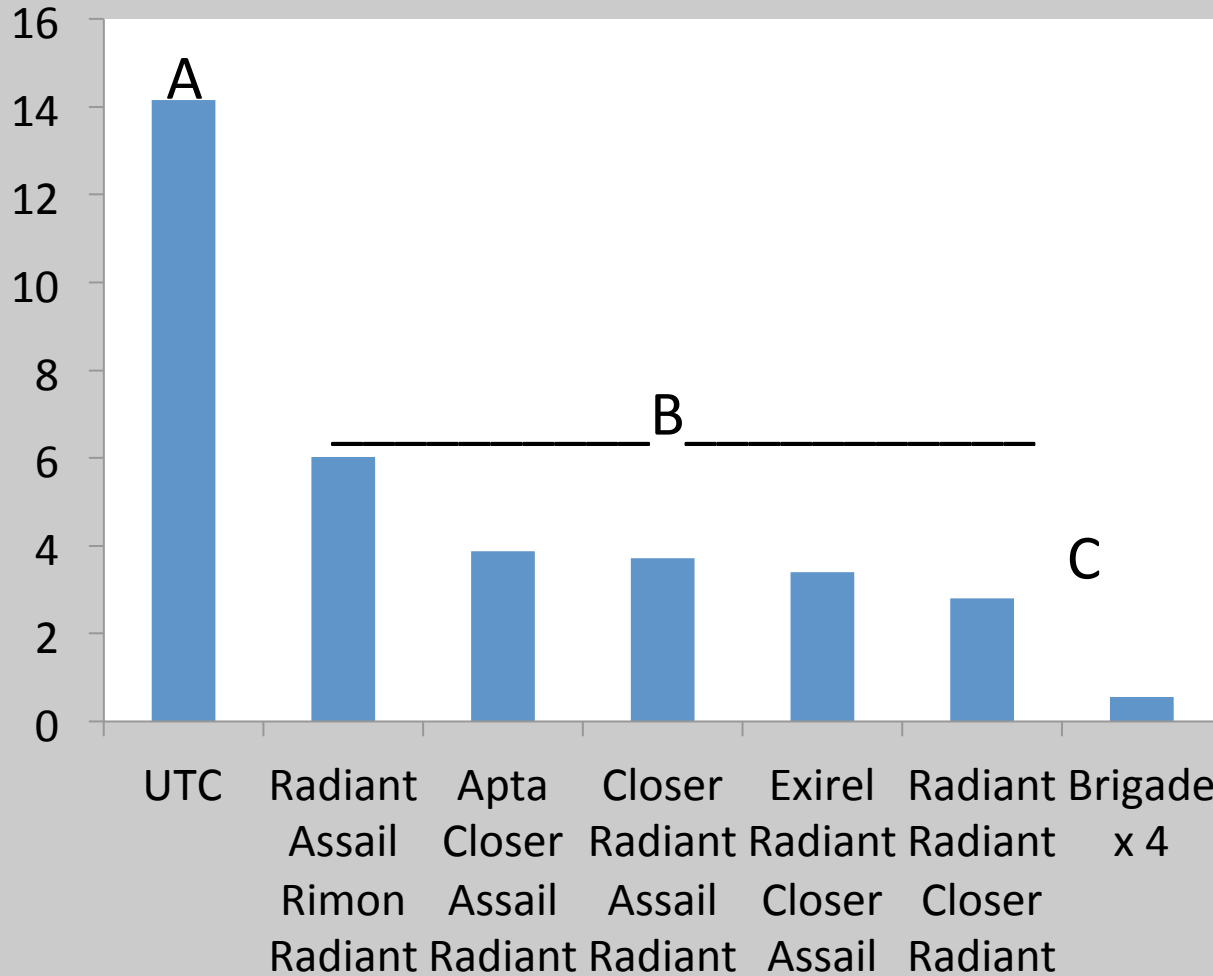
## *F. occidentalis*

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Rep	3	1.06363667	0.35454556	1.05	0.3733
Year	1	0.00000068	0.00000068	0.00	0.9989
Trt	6	13.88684595	2.31447433	6.83	<.0001
Year*Trt	6	3.75893146	0.62648858	1.85	0.0914



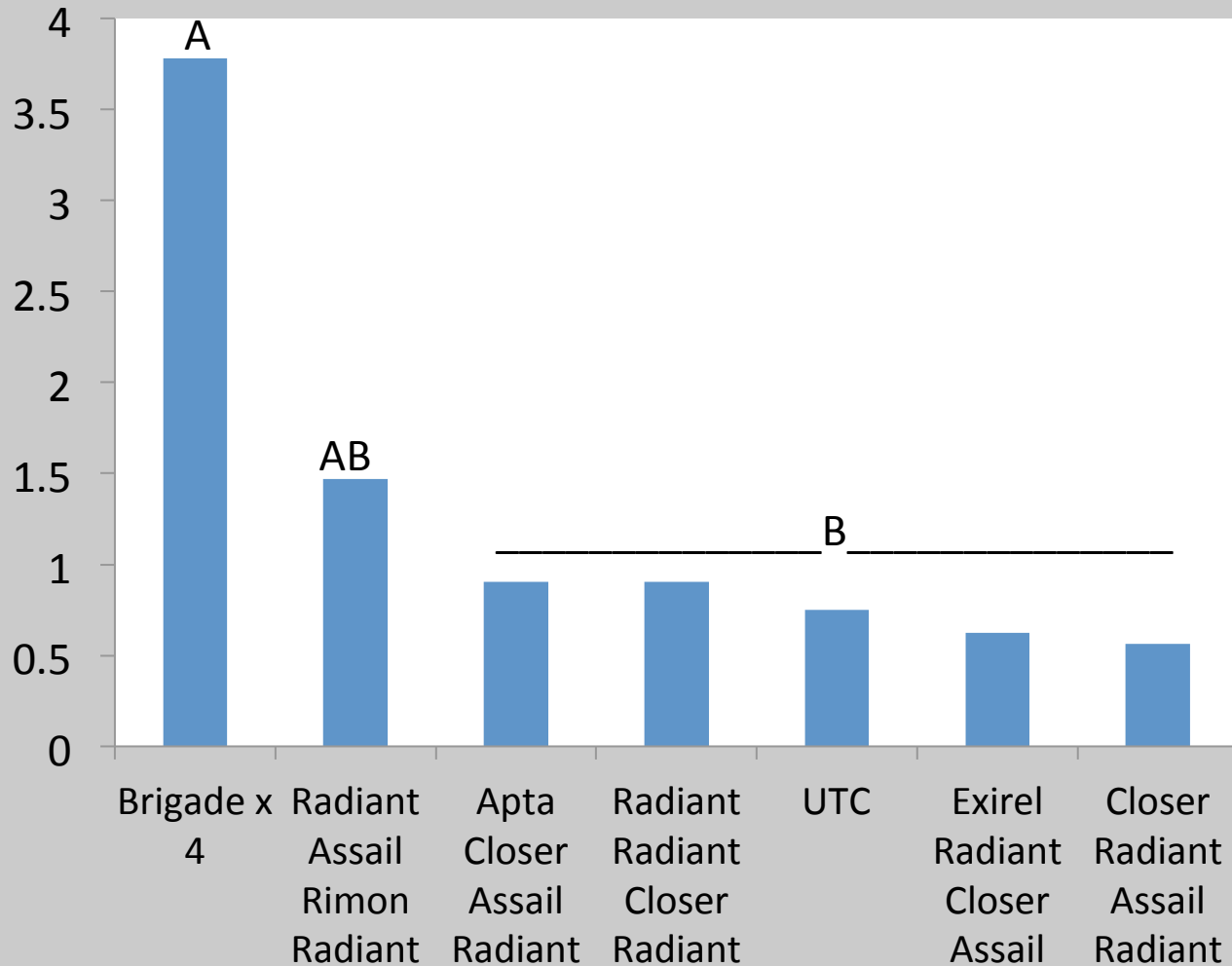
# 2014-2015 Florida Flower Thrips Pooled (Four Sample Dates Each Year)

Thrips/10 flowers

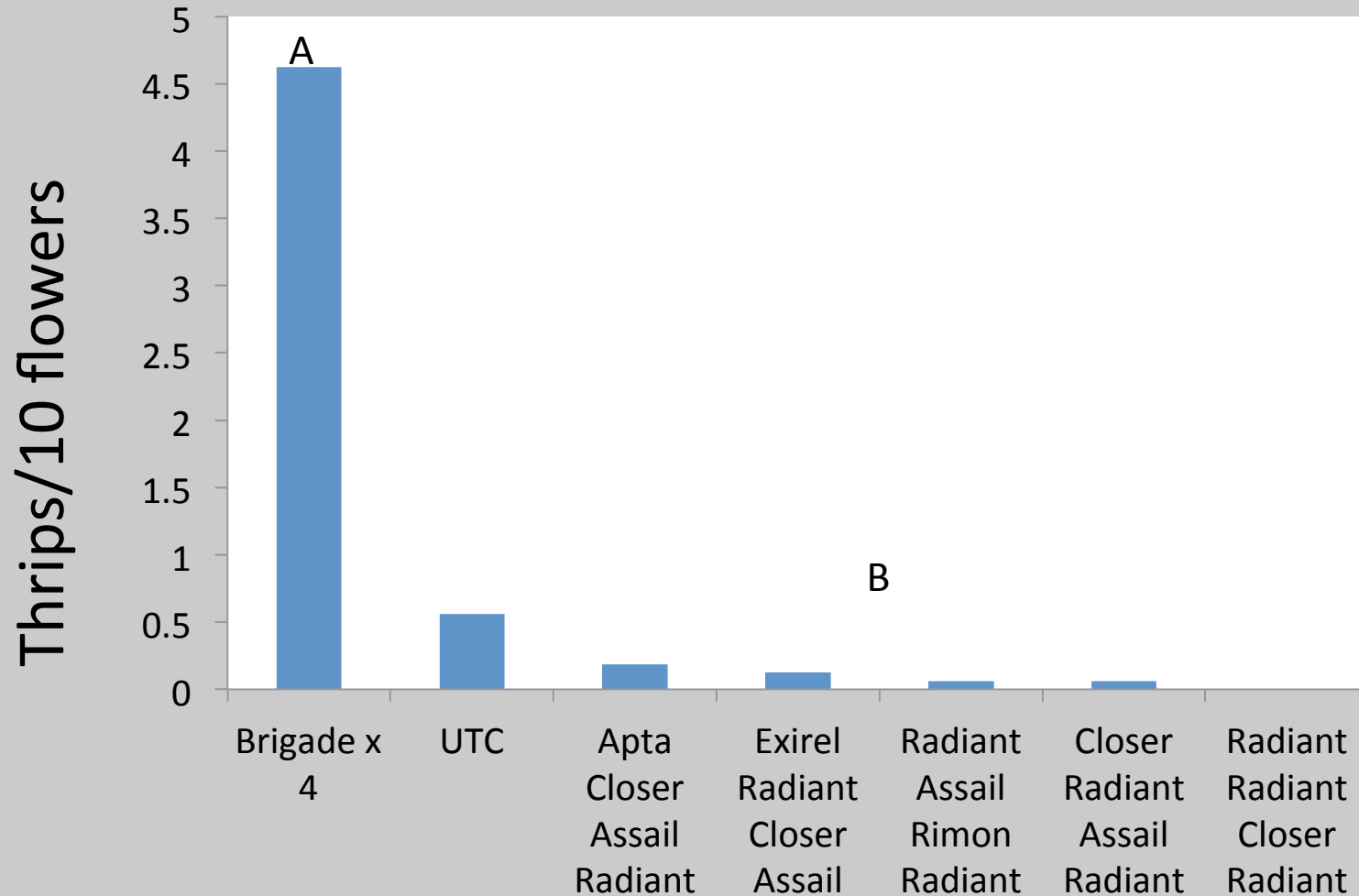


# 2014-2015 Western Flower Thrips Pooled (Four Sample Dates Each Year)

Thrips/10 flowers



# 2014 Common Blossom Thrips Pooled (Four Sample Dates)



2015 – Thrips were identified from green and pink fruit as well as flowers.

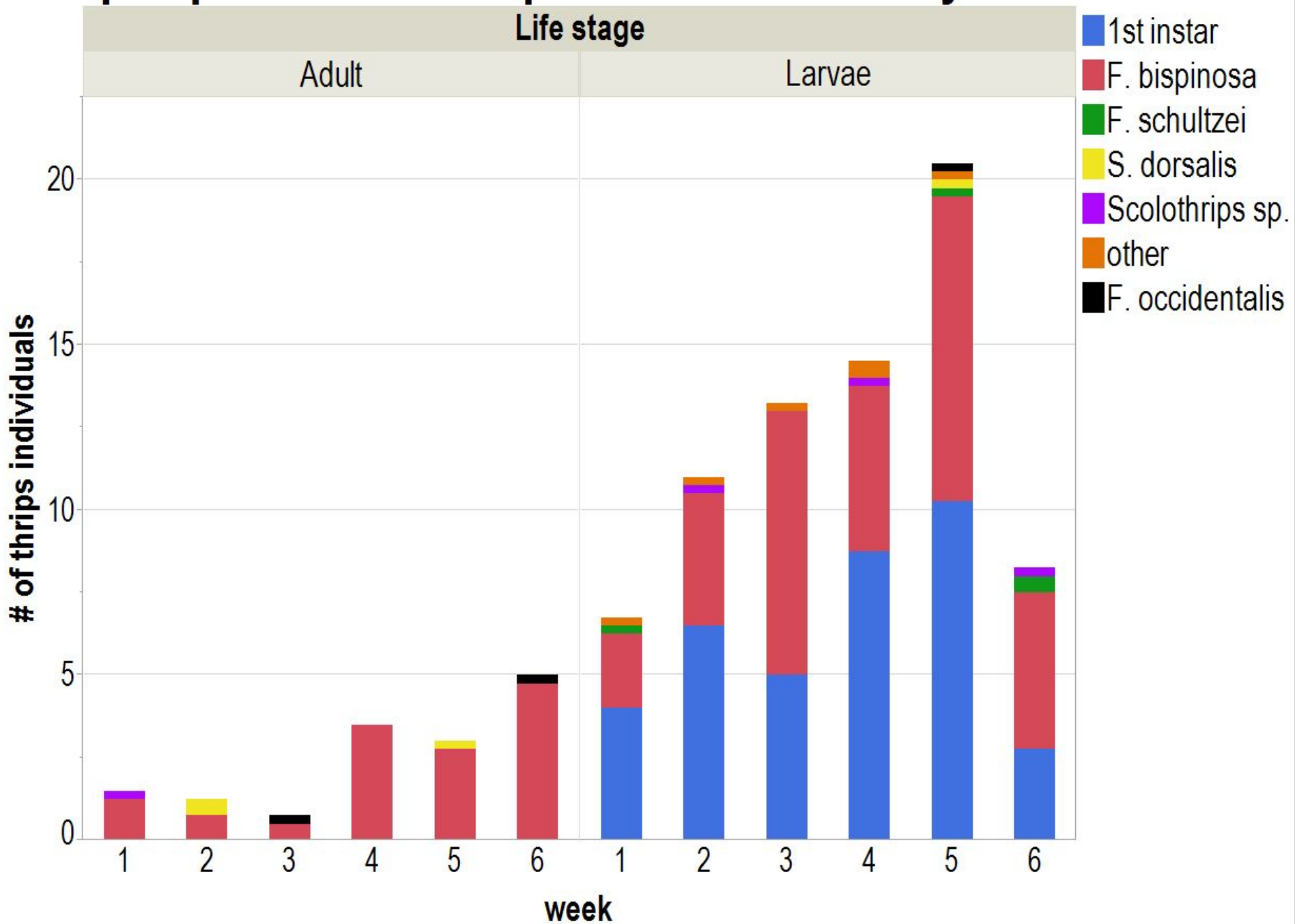
Green Fruit



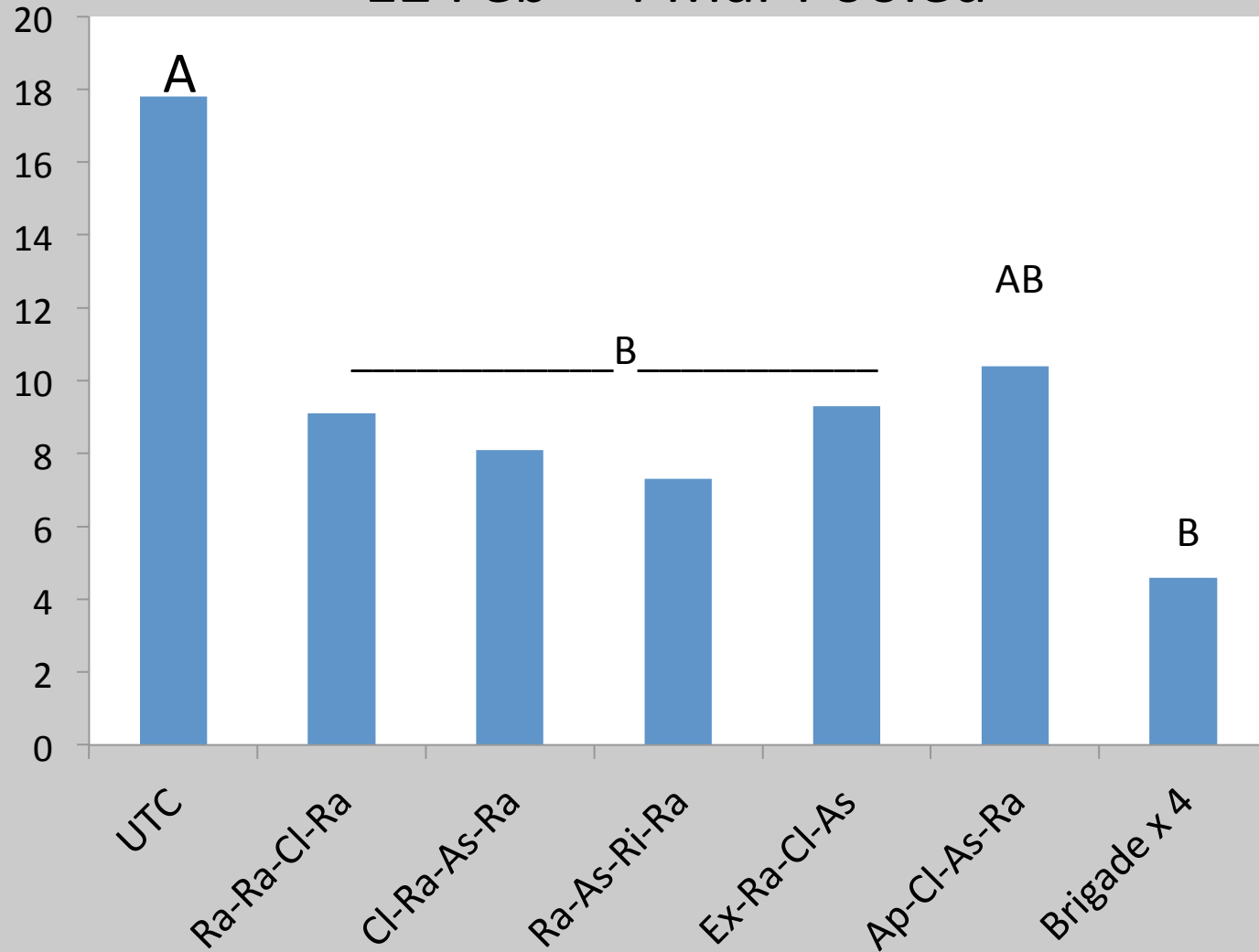
Pink Fruit



# Thrips species in a sample of ten strawberry fruit



# 2015 Season: Treatment Effects on Thrips Larvae on Fruit 12 Feb – 4 Mar Pooled



# Results

## 2014 Trial

### Bifenthrin:

- increased proportion of western flower thrips, common blossom thrips, and larvae
- effective in reducing numbers of Florida flower thrips

# Results

2014 and 2015

- Florida flower thrips was the predominant species in strawberry flowers.
- Florida flower thrips was susceptible to all insecticide rotations tested.
- Rotations with 3, 2 or 1 application of Radiant were equally effective in suppressing Florida flower thrips .
- No insecticide rotation reduced numbers of western flower thrips compared to UTC.



# Results

2015

- Florida flower thrips was the predominant species on strawberry fruit.
- Most rotations were comparable in suppression of larvae on fruit
- Common blossom thrips was very rare.

# Acknowledgements

This research was carried out with support from The Florida Strawberry Growers Association, Dow, and Nichino America

