

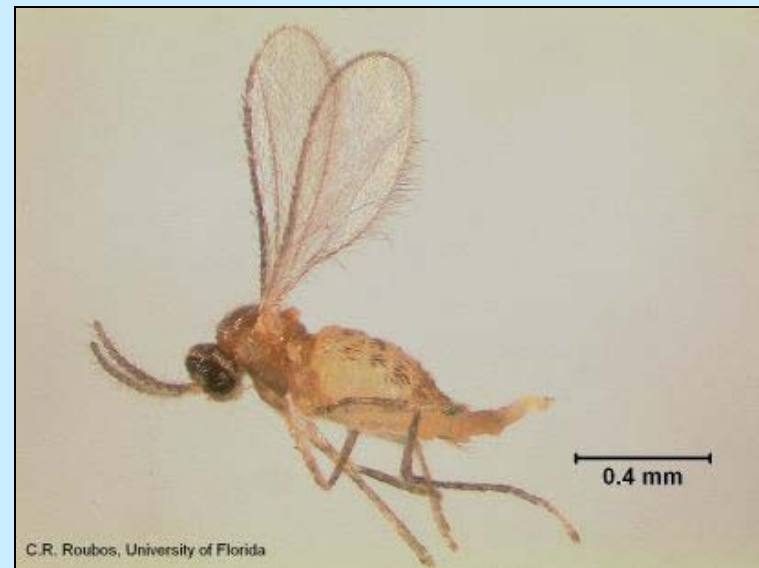
**Monitoring and distribution of  
blueberry gall midge,  
*Dasineura oxycoccana*  
Johnson, in Rabbiteye  
blueberries in Florida**

Elena M. Rhodes, Nicole Benda, and  
Oscar E. Liburd

University of Florida Entomology and  
Nematology Department

# Blueberry gall midge

- *Dasineura oxycoccana* Johnson
- Pupae overwinter in soil
- Adult females lay eggs in developing buds
- Up to 80% yield loss



# Injury



Leaf bud



Flower bud

# Monitoring

- Bucket emergence trap
  - Roubos 2009
- Clear panel trap
  - Cook et al. 2011



- Comparable except at low population levels (Rhodes et al. 2014)

# Objectives

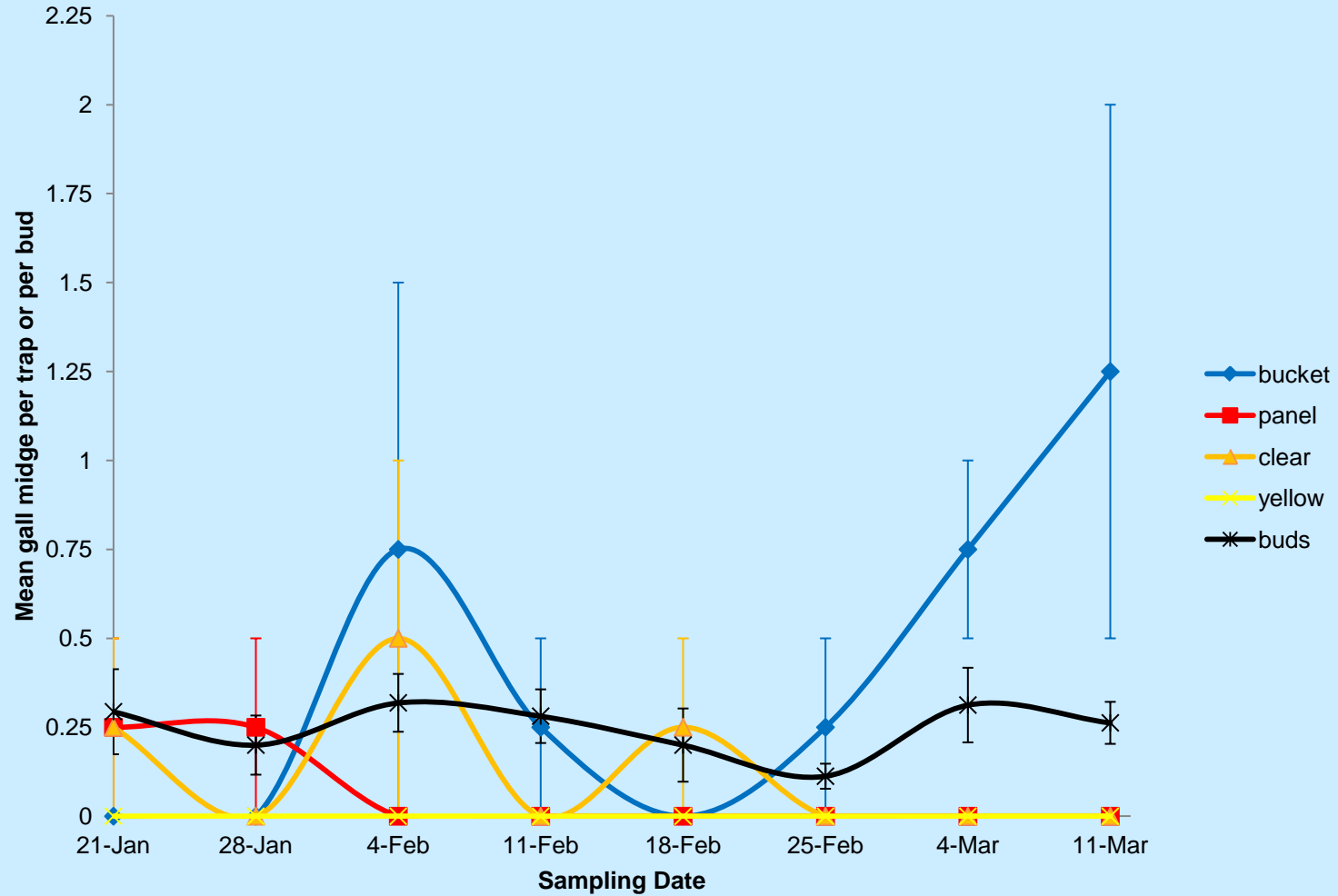
- To compare the efficacy of a clear sticky sheet and a yellow sticky trap hung unfolded to that of panel traps
- To look at the effect of trap height on clear sticky sheet trap efficacy
- To determine optimum placement for the bucket trap

# Methods: trap comparison 2014

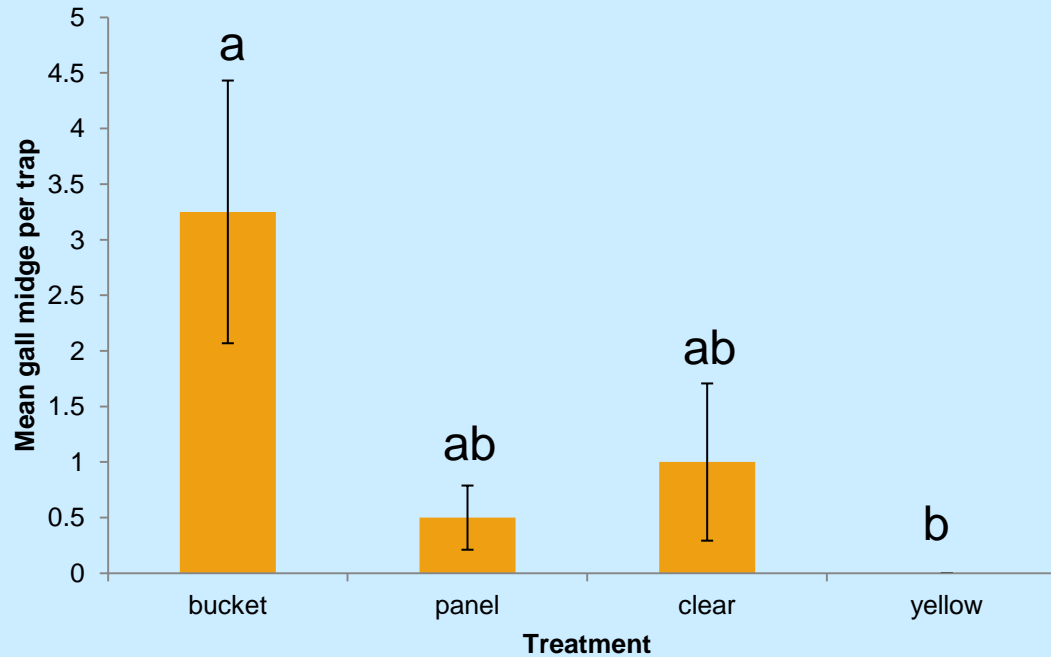
- 4 replicates of 4 treatments in RCBD
  - Bucket emergence trap
  - Clear panel trap
  - Clear sticky sheet
  - Yellow sticky trap hung unfolded
- Traps checked weekly
- Buds collected weekly to monitor larval population
- January – March 2014



# Results: Mean midges per week 2014



# Results: Mean midges for the season 2014



$P = 0.054$



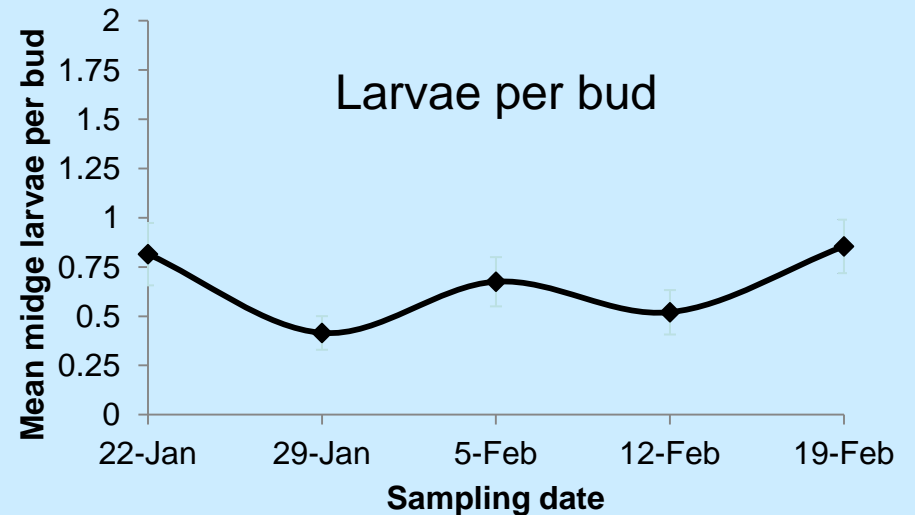
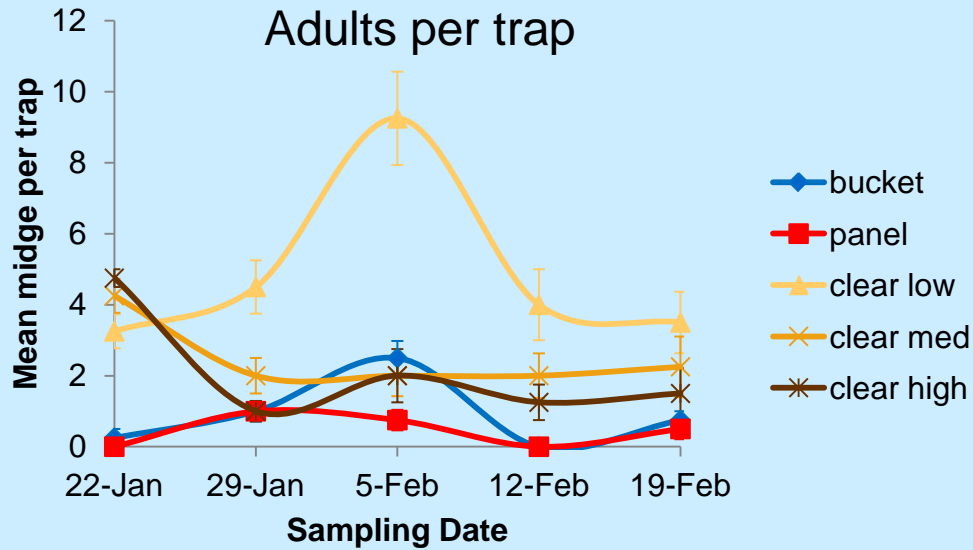
# Summary 2014

- Yellow sticky traps hung unfolded caught no midges
- Midge populations were very low
- Clear sticky sheets appear to be as effective as panel traps

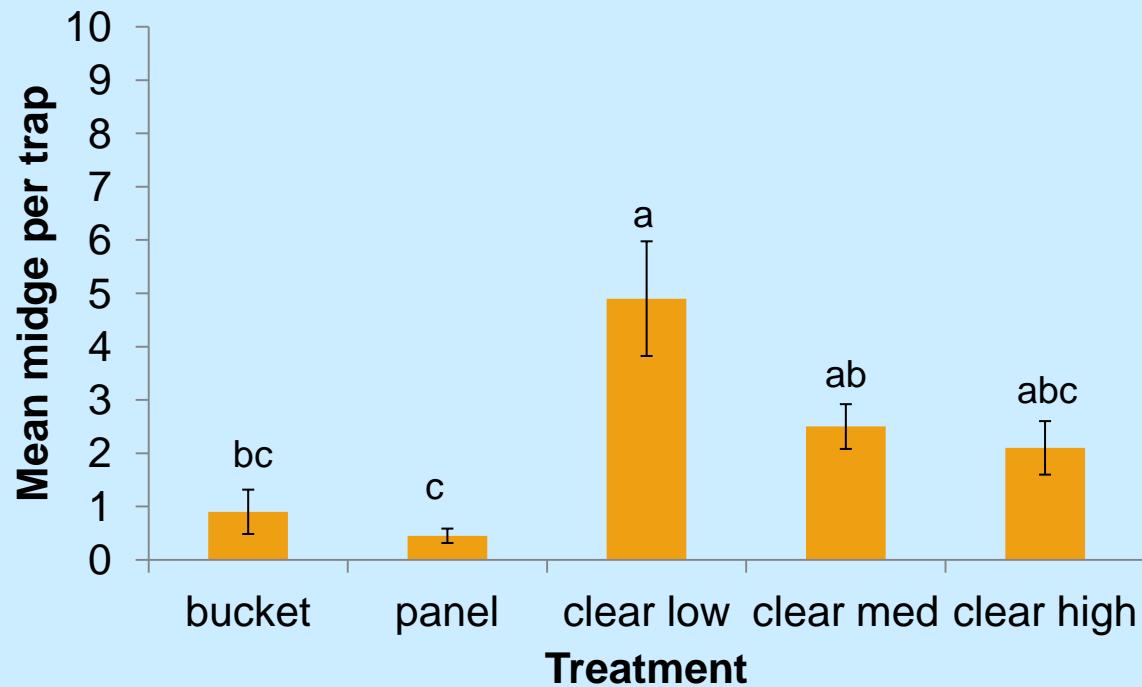
# Methods: trap height 2015

- Gainesville FL blueberry farm in rabbiteye blueberries
- 4 replicates of 5 treatments in RCBD
  - Bucket emergence trap
  - Clear panel trap
  - Clear sticky sheet low (bottom ~ 5 cm from ground)
  - Clear sticky sheet medium (middle of bush)
  - Clear sticky sheet high (top of trap at top of bush)
- Traps changed out weekly
- Buds collected weekly to monitor larval population

# Results: trap height 2015



# Results: trap height 2015



Week\*trt  $P = 0.28$

Trt  $P < 0.0001$

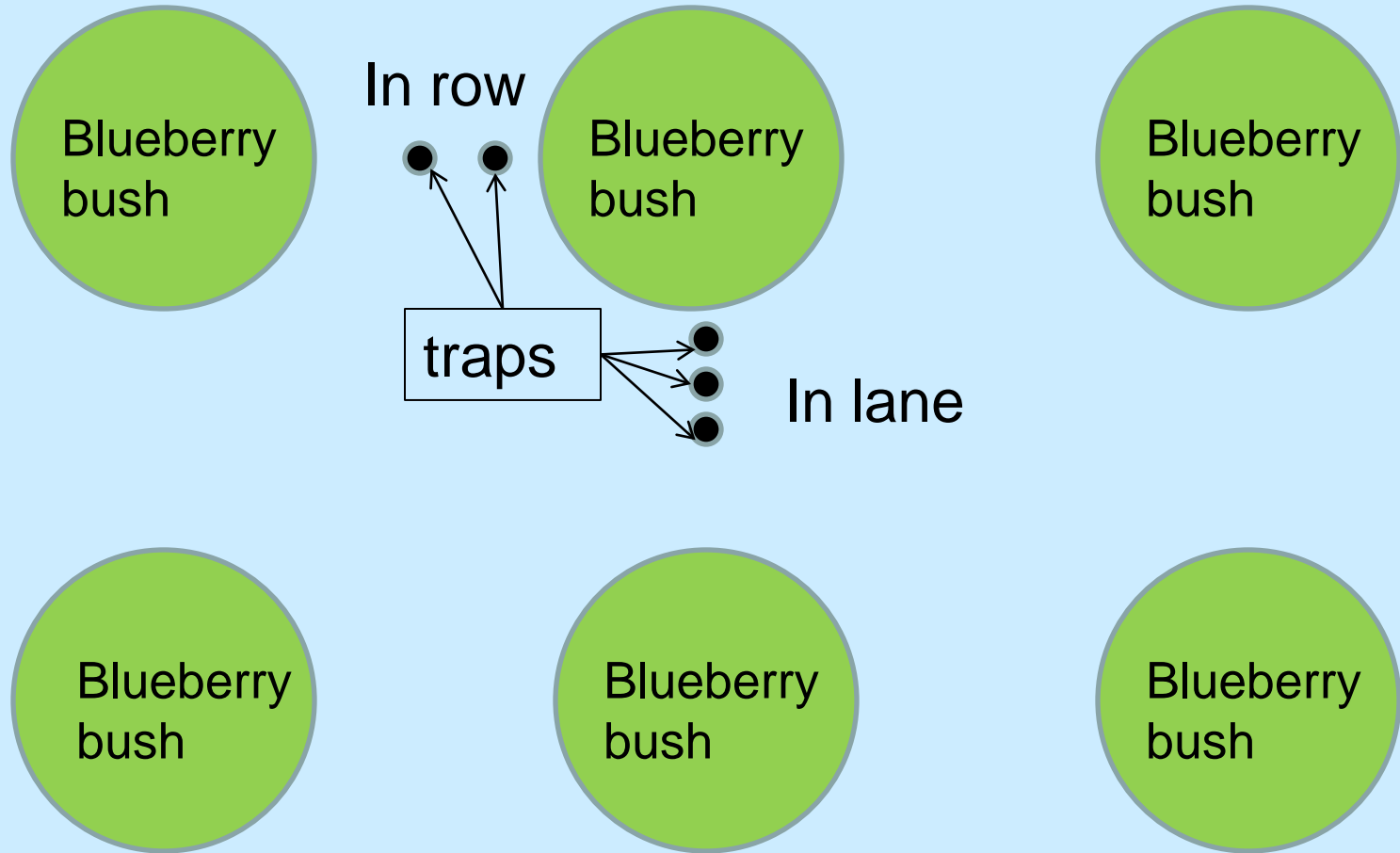
# Summary: trap height 2015

- The clear sticky sheet hung with the bottom ~ 5 cm from the ground performed the best
- High variation in blueberry bush height may have masked differences in trap height
- Low counts from bucket emergence traps could be due to the overgrown field making proper placement difficult

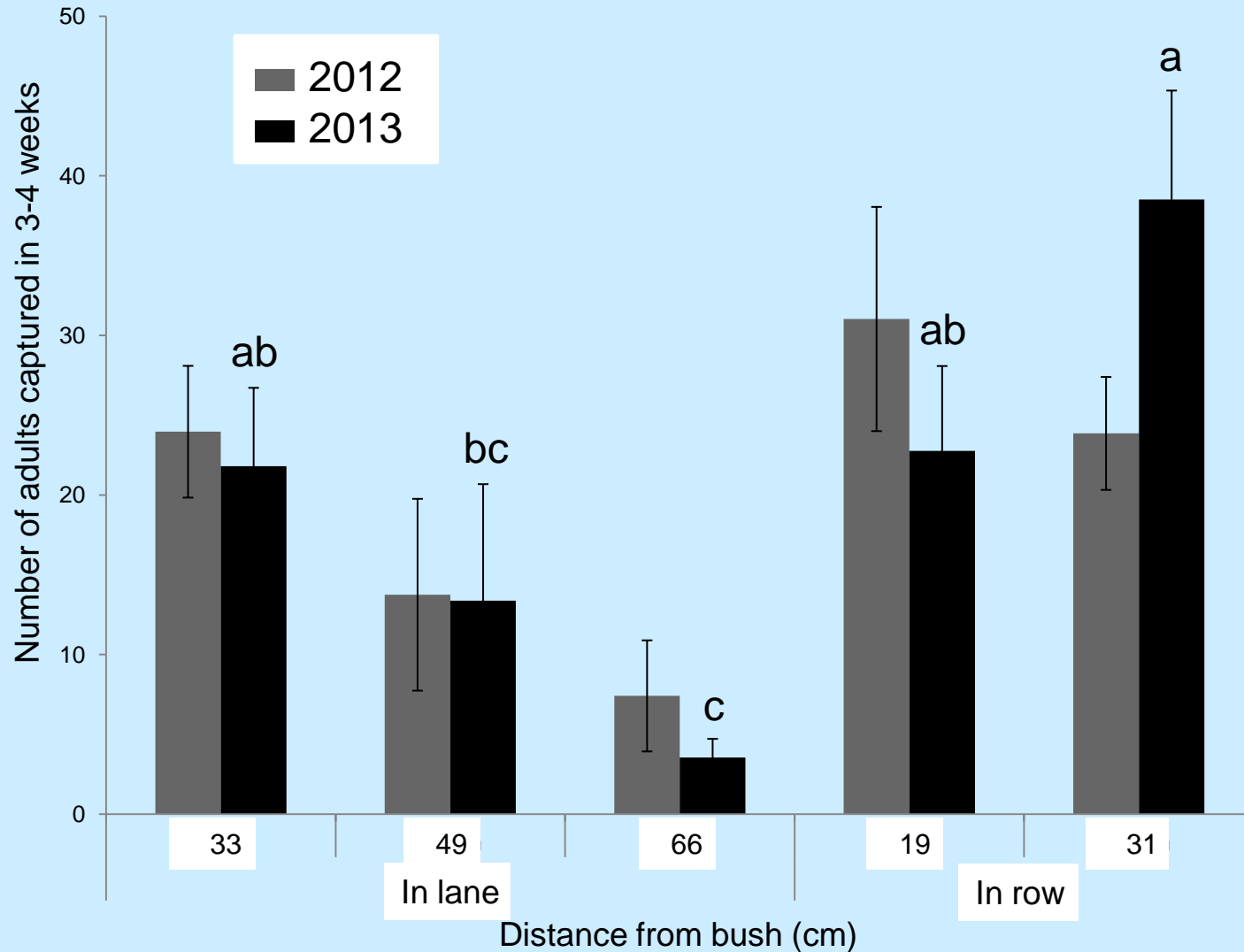
# Methods: Pupal distribution in the soil

- 3 reps of 5 traps
  - 2 traps within the row 4 and 16 cm from outer shoots of the bush (19 and 31 cm from the trunk)
  - 3 traps perpendicular to the row at 18, 34, and 51 cm from the trunk
- Traps moved weekly to sample new patch of ground
  - 5 weeks in 2012
  - 3 weeks in 2013

# Experimental layout



# Results: Pupal distribution





# Pupal distribution summary

- 78% of gall midge larvae pupate within 48 cm of blueberry plants

# Conclusions

- Clear sticky sheets are an effective monitoring tool
- Hanging the clear sticky sheets ~5 cm above the ground appears to be the most effective
- Bucket traps should be placed within 48 cm of blueberry bushes

# Future Research

- Adding an attractant to the clear sticky sheet trap

# Acknowledgements

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