



vineland

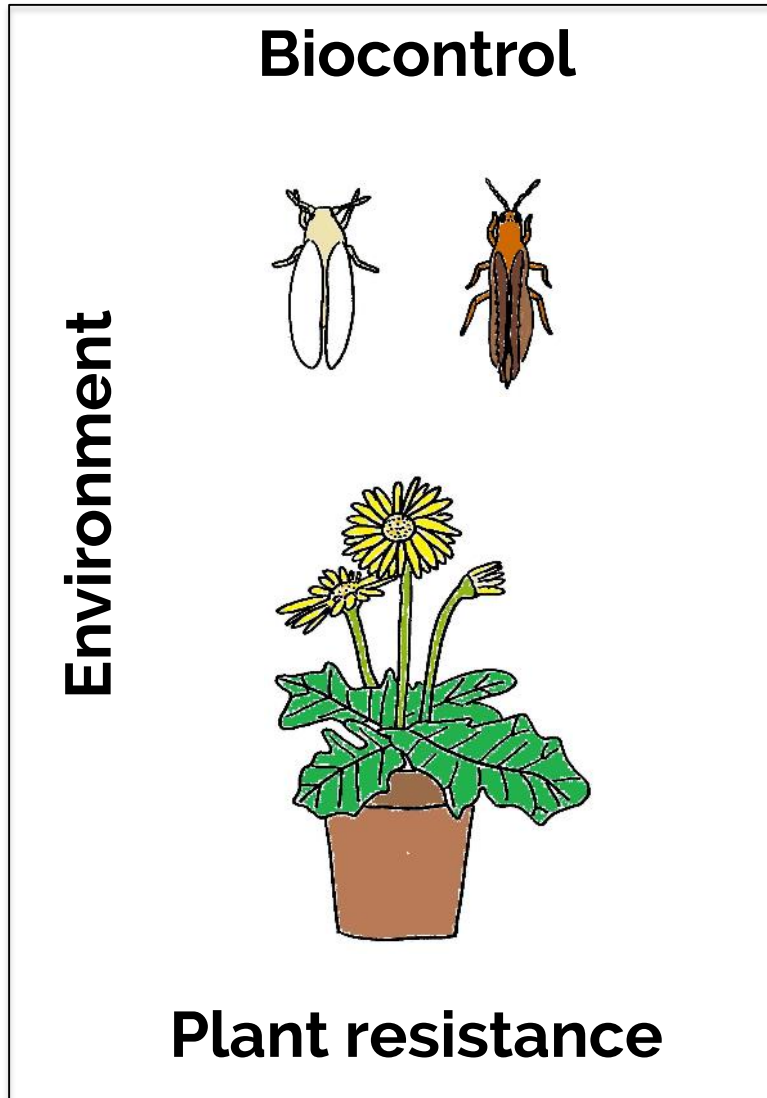
RESEARCH & INNOVATION CENTRE

You are what you eat: lean and mean plants in IPM

**Rose Buitenhuis
Sarah Jandricic
Chevonne Dayboll
Michael Brownbridge**



Greenhouse IPM



High fertilizer rates



Plant tissues rich in organic nitrogen



Stimulate pest populations

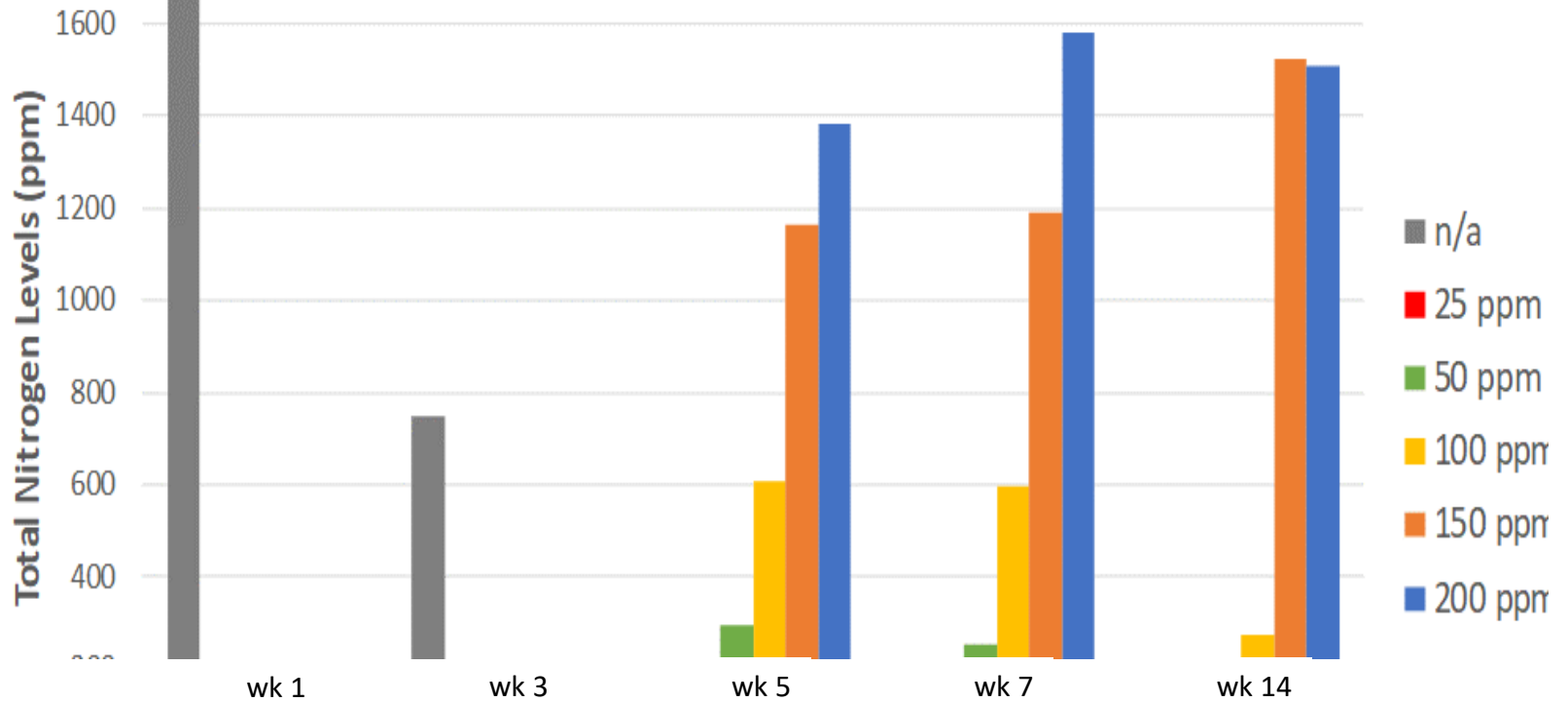
Effect of plant nutrition on pests

- **Floriculture crops often over-fertilized**
- **Reduce fertilizer -> slow down pest population increase -> better biocontrol performance**



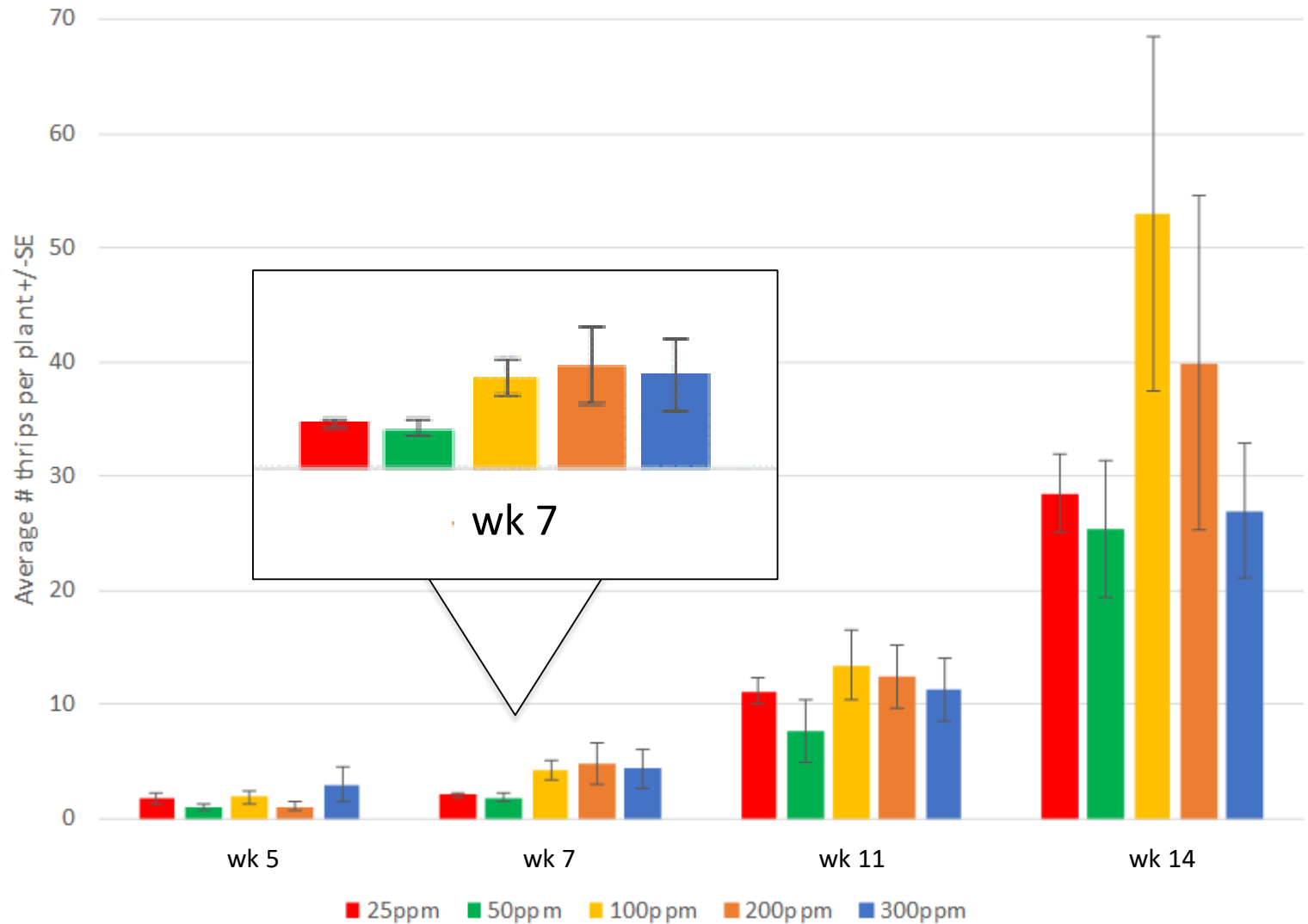
N levels

Chrysanthemum



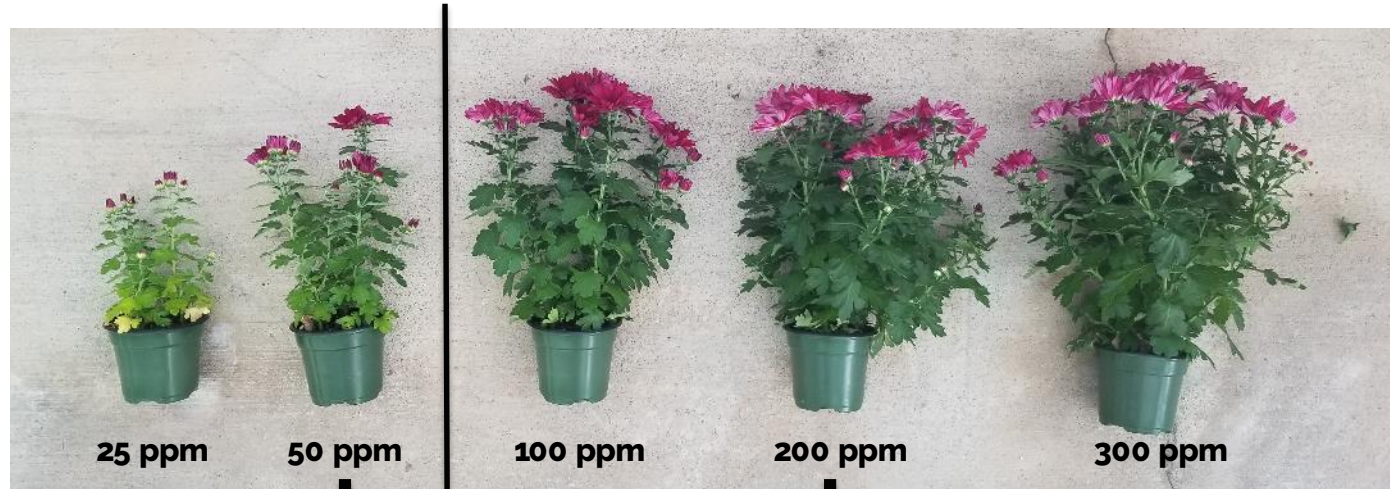
Effect of N on thrips

Chrysanthemum



Plant quality

Chrysanthemum



25 ppm

50 ppm

100 ppm

200 ppm

300 ppm

Low nutrients

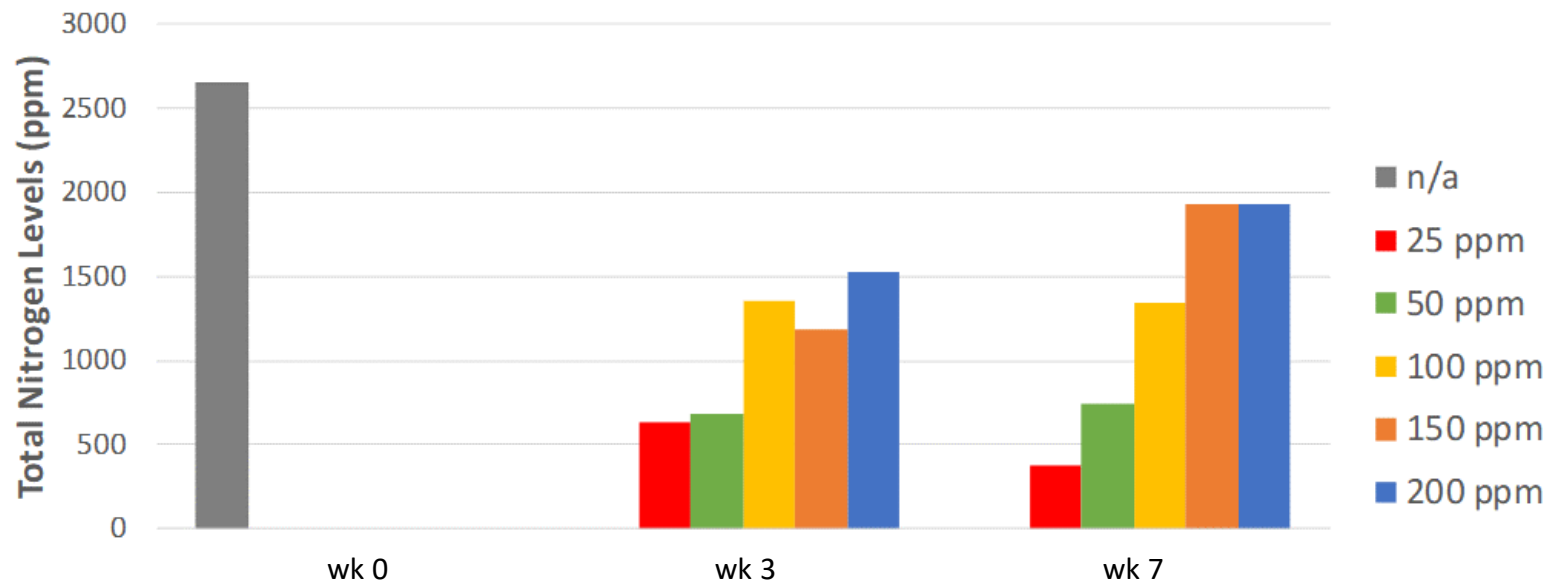
High nutrients

**Low nutrients
+ biostimulant**

**High nutrients
+ biostimulant**

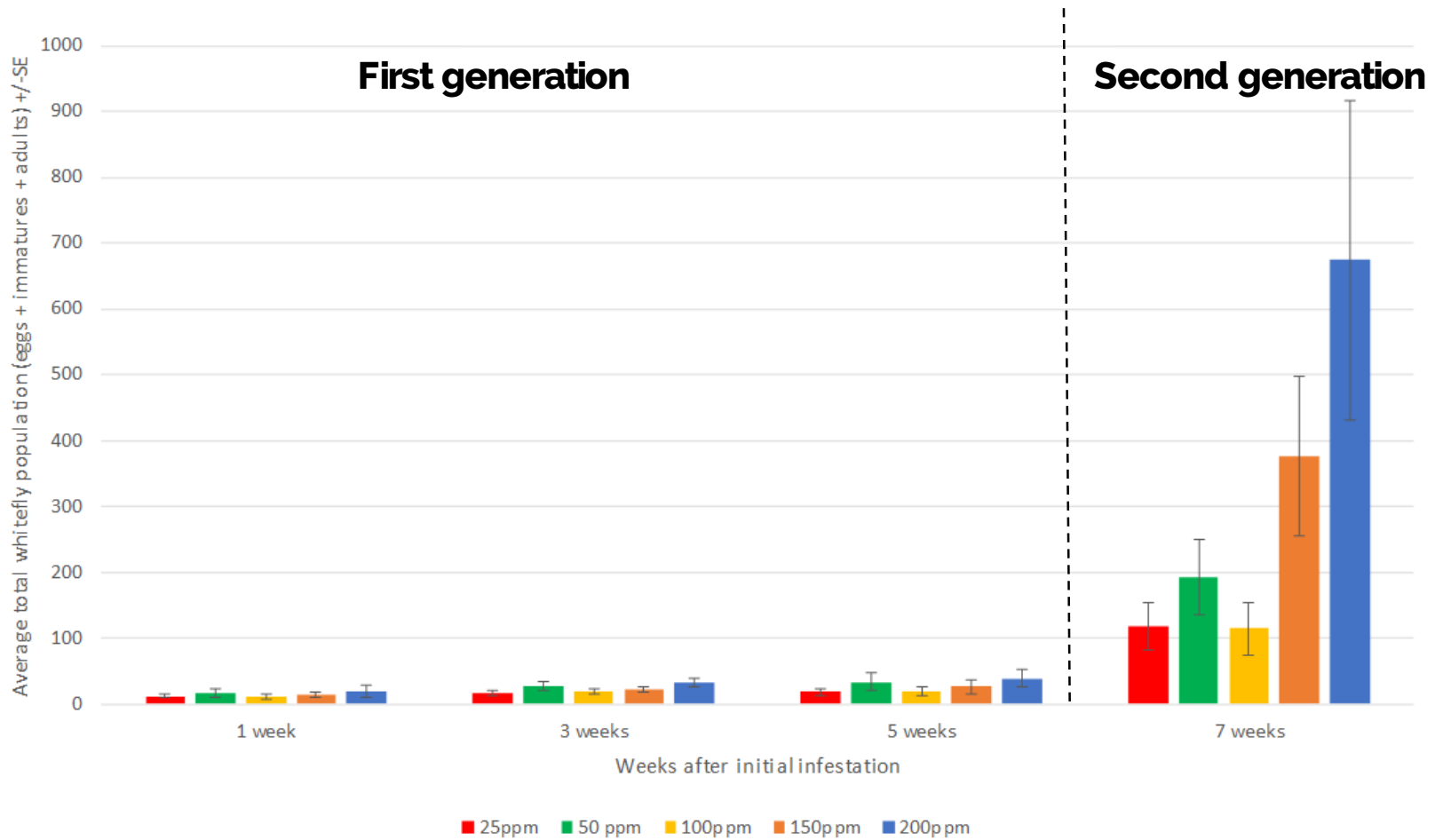
N levels

Gerbera



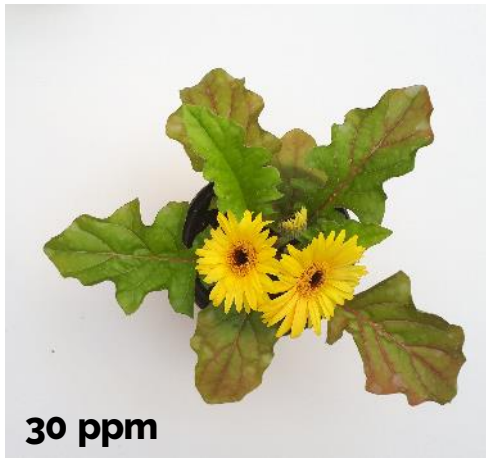
Effect of N of whitefly

Gerbera



Plant quality

Gerbera



- **Effect of biostimulants?**
- **Effect of reduced N on whitefly susceptibility to entomopathogenic fungi?**



Conclusions and next steps

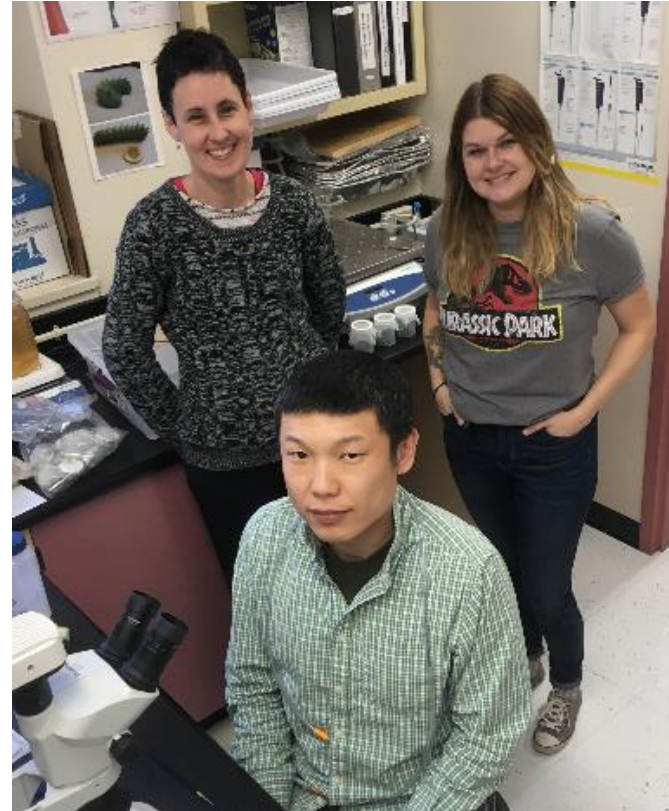
- **Reducing nutrients leads to less thrips and whiteflies**
 - Repeat trials for more replication
- **How low can you go?**
 - Can biostimulants compensate for low nutrient levels?
 - Effect on pest populations?
- **Role in IPM program?**
 - Effect of reduced nutrients and biostimulants on biocontrol efficacy?

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Thank you

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