Using Mass Trapping in a Thrips IPM program

Ashley Summerfield

Mass Trapping

- Sticky cards, tape or trap plants
- Easy to implement
- Inexpensive
- Mass trapping is most effective for dispersing thrips
  - Entry points
- Every thrips caught = big impact on future population

Sticky Cards

- Small cards excellent monitoring tool
- Larger cards & tape for mass trapping
- Cards & tape can be equally effective

Sticky Cards

- Thrips are poor fliers
  - Do not put cards too high above crop
  - Put some cards under benches
- Examine sticky cards weekly to assess pest numbers
- Mass trapping cards/tape can be left up for several weeks

Sticky Cards

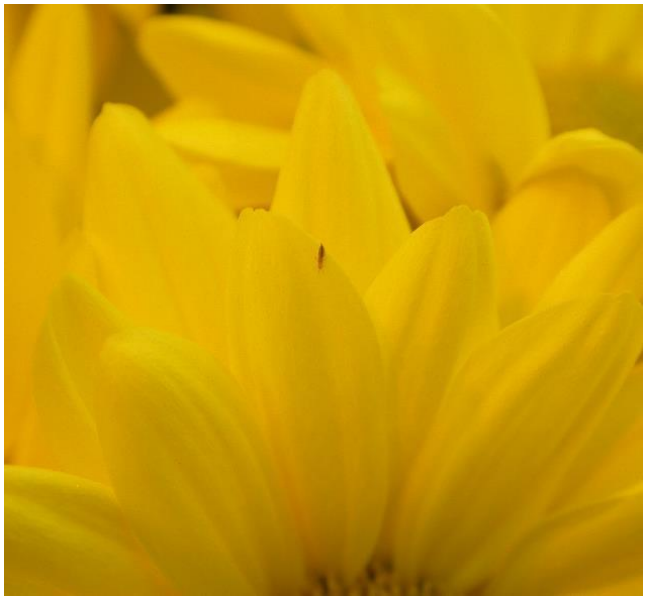
- Both yellow and blue sticky cards are equally attractive to thrips
- Yellow is attractive to many species;
  - can also be used to mass-trap whiteflies, fungus gnats & shore flies
- Blue is more specific to thrips
  - less attractive to other species
  - Use blue to avoid trapping flying beneficials
  - Avoid blue when using bumblebees

Sticky Cards

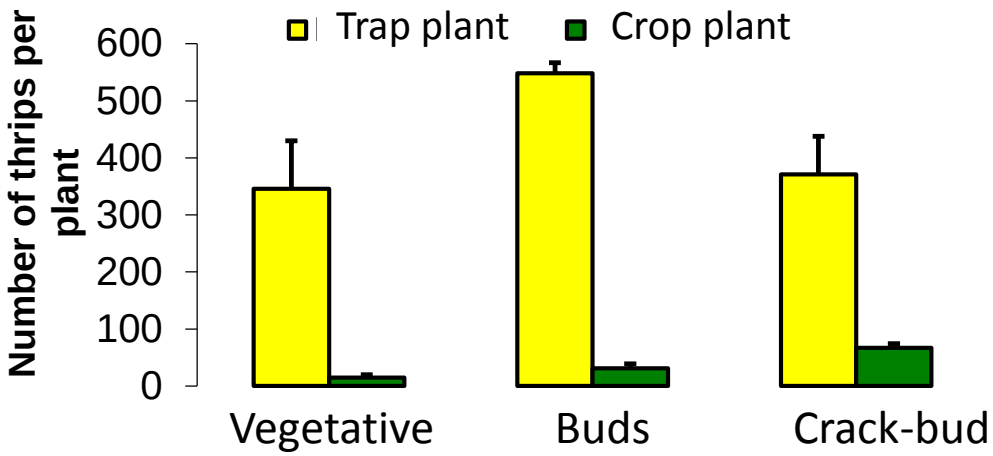
- New patterned sticky roll “Optiroll Super”
  - Developed by BioPol Natural (Netherlands) & Russel IPM (UK)
  - Greenhouse trials in South America reported blue Optiroll substantially increased thrips captures
  - Already being used in Ontario

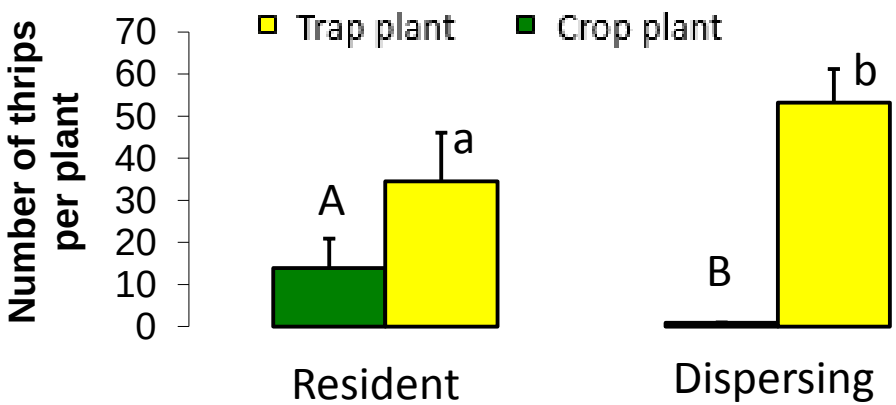
Trap Plants

- Yellow mums & marigolds
- Adult thrips prefer plants with flowers
- Attractiveness of flowers is influenced by
  - Volatiles
  - Pollen
  - Colour
  - Nutritional value
- May be used as banker plants
- Replace trap plants weekly



Trap Plants



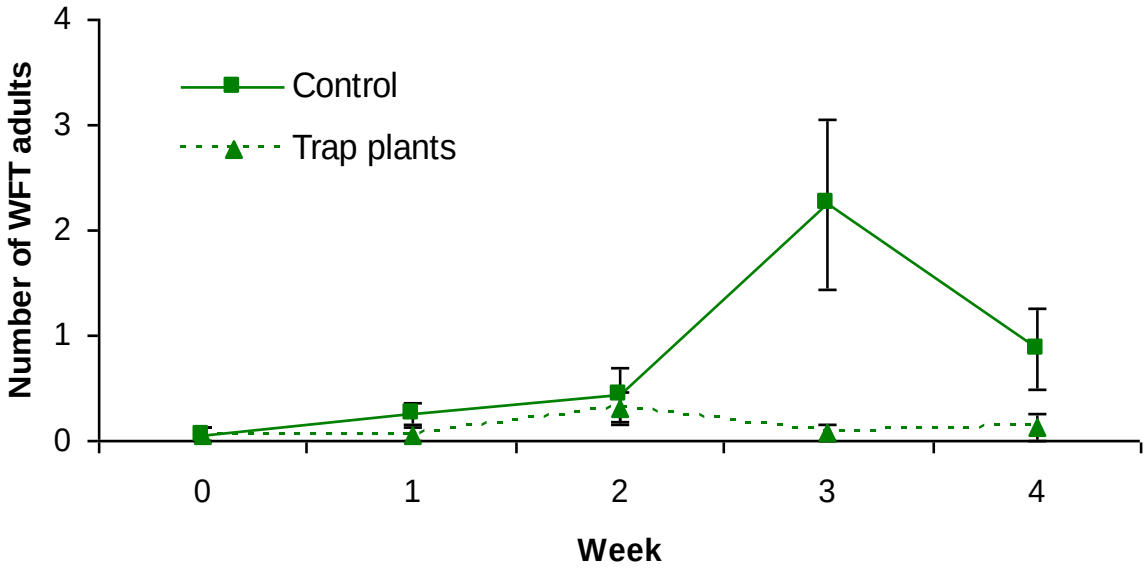


- Adult thrips are significantly more attracted to flowering trap plants than non-flowering crop
- Trap plants more effective while adults are dispersing

Greenhouseipm.org

Trap plants

- Trap plants effectively reduce thrips population in crop in commercial setting



Trap Plants

Trap placement

- Interspersed pattern better than barrier pattern
- Increase concentration of trap plants near entry points

Interspersed

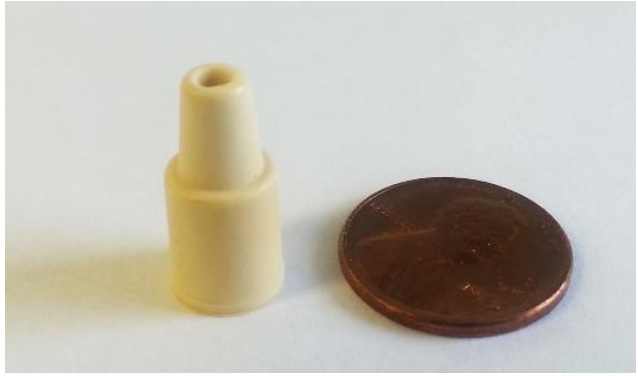
>

Barrier

Thrips lures

neryl-S-2-methylbutanoate
(Thripline ams, Syngenta Bioline)

- Thrips aggregation pheromone
- Marketed as a monitoring tool
- Improve mass trapping?
- Improve biocontrol?
  - Agitating thrips (more contact)
  - Attracting predators



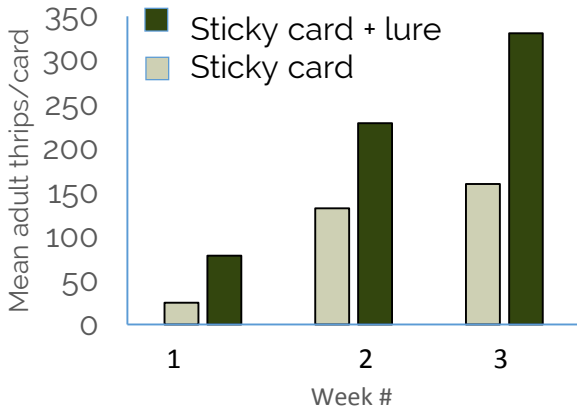
Thrips lures
Research at Vineland

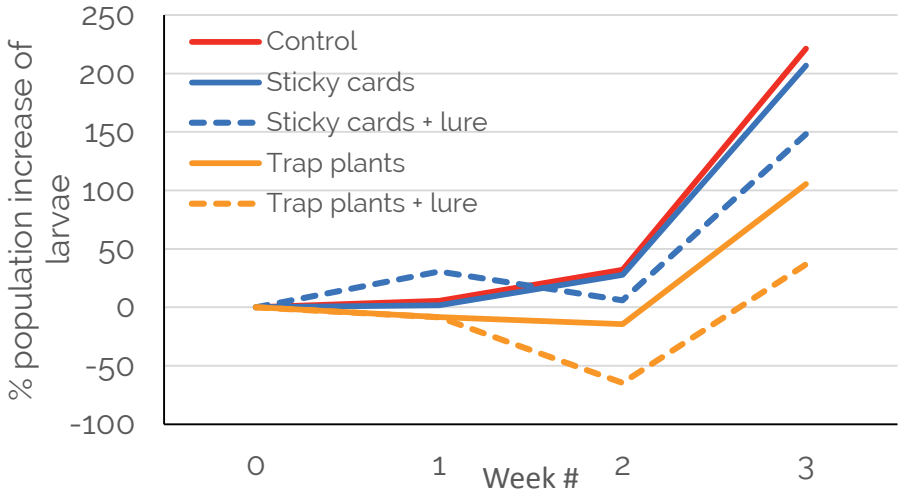
Does the addition of thrips semiochemicals improve efficacy of mass trapping by sticky cards and trap plants?

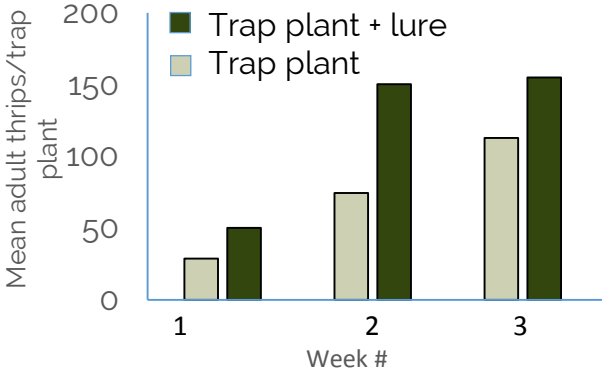
Thrips lures

Research at Vineland

- More thrips caught on trap plants with lures
- More thrips caught on sticky cards with lures
- Both sticky cards and trap plants more effective with lures
- Trap plants more effective than sticky cards



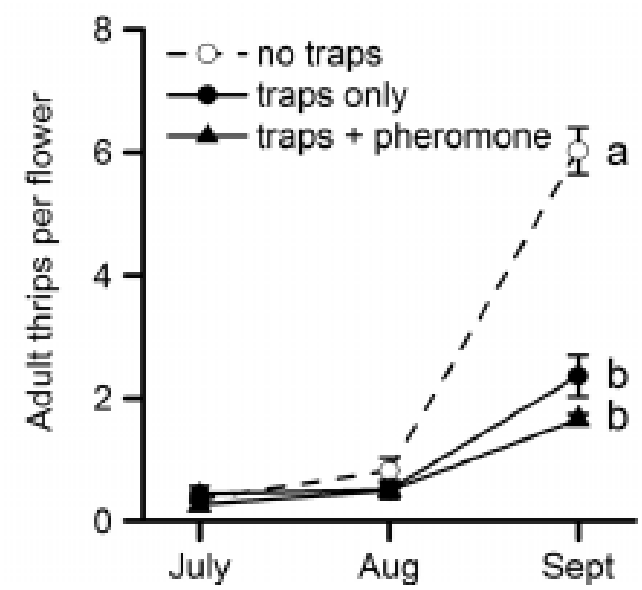




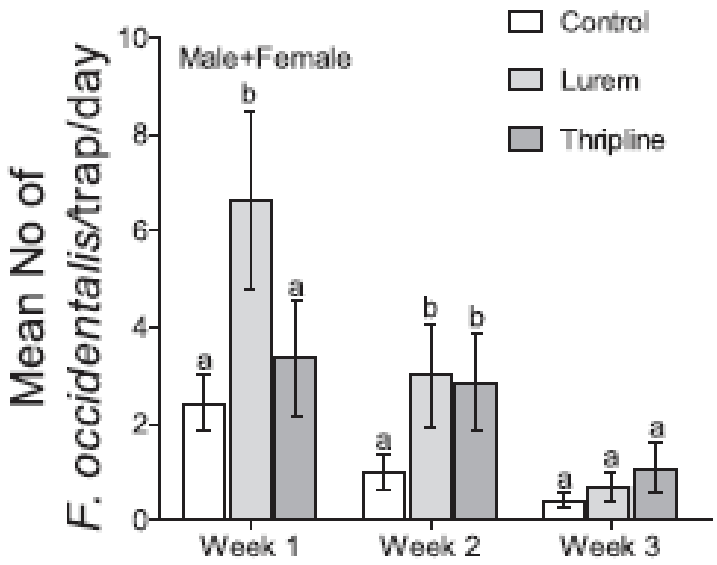
Greenhouseipm.org

Thrips lures

- Similar results found by two independent research groups in strawberries (UK) & roses (Australia)
  - Commercial trials, natural thrips pressure



Sampson & Kirk, 2013



Broughton et al., 2015

Conclusions

- Mass trapping a useful tool in thrips IPM toolkit
  - Sticky Cards
    - Pros: low maintenance, kills thrips, versatile, useful for multiple pests
    - Cons: may also catch flying bios
  - Trap Plants
    - Pros: more attractive to thrips, will not kill flying bios, may be used as banker
    - Cons: higher maintenance than cards
- Optimize both methods with proper placement & addition of lures