



# CROP TECHNOLOGIES

## IR-4 Workshop

Emily Fuerst  
St. Louis, MO  
Sept. 19-21, 2018







*Our Crop Technologies team thrives on providing commercial growers with unique alternative products to overcome horticultural challenges and help ensure a healthy growing environment for healthy growing plants.*



# Biopesticides for Consideration



**All are FIFRA 25(b) Minimum Risk**

- TetraCURB™ Concentrate
- TetraCURB™ Organic
- KOC22018

# TetraCURB™ – Miticide + Repellent



A rosemary oil-based **contact biopesticide** designed to kill and repel spider mites on all plants including food crops

- *50% active ingredient in the concentrate*
- *Multiple MoA for lower insect resistance*
- *Longer interval between synthetic pesticide applications*
- *No phytotoxicity*
- *Quick knockdown*

**EFFECTIVE CONTROL OF SPIDER MITES  
WITH MORTALITY AND REPELLENCY**



Consistent  
Molecular  
Profile



Reduces  
Synthetic  
Usage



Zero  
REI



Zero  
PHI



MPS-ABC



Can be used in  
conjunction with  
biological programs



Exempt From  
Residue  
Tolerance



Essential for  
strong IPM  
program



Standard  
PPE

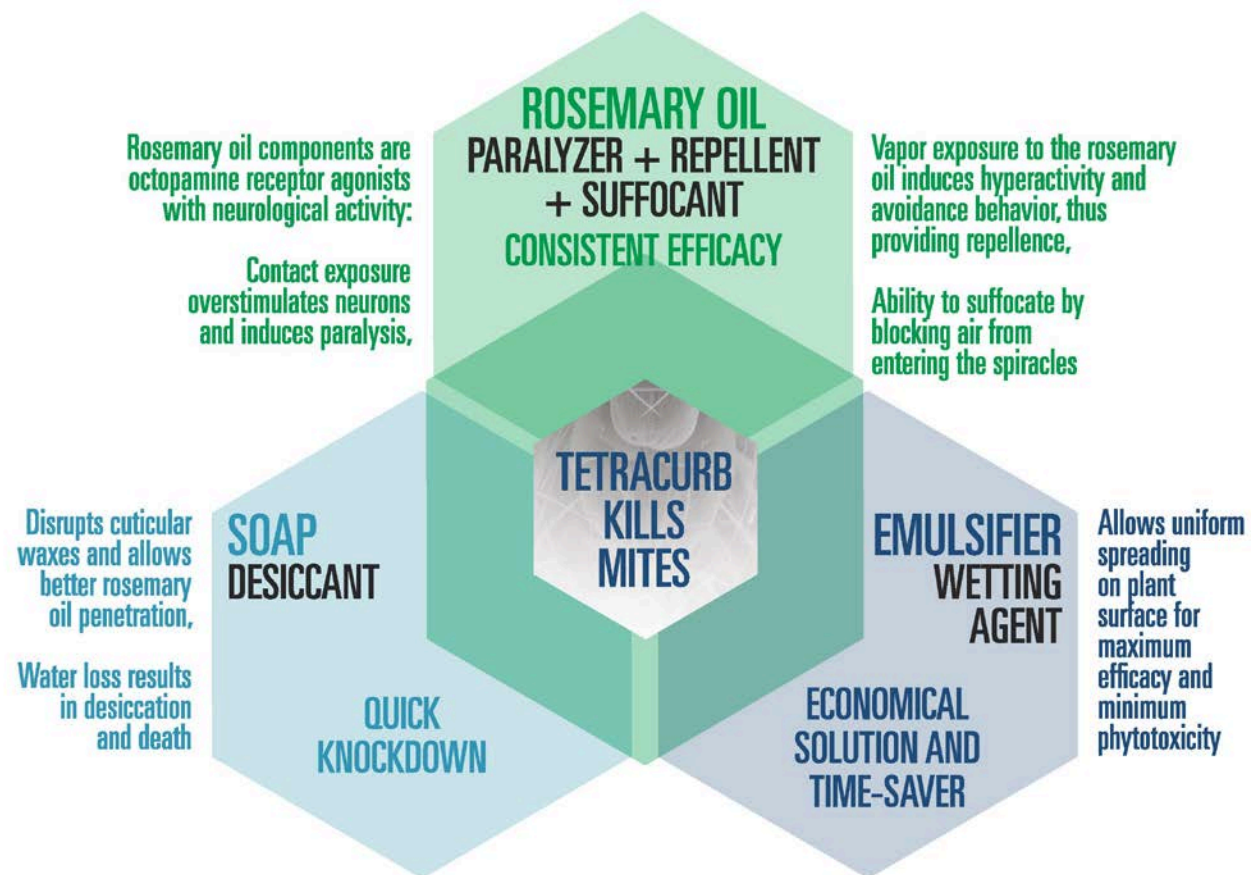




# Multiple MoA



## SMART BLEND







## Material and Methods

- **Plant:** *Tagetes erecta*
- **Duration:** 6 weeks
- **Infestation:** inoculation with two-spotted spider mites (~10 mites/plant) each week
- **Application:** Spray until run off
- **Treatment rates:**
  - 32 oz., 64 oz. and 128 oz. v/v
  - 8 plants/treatment
- **Negative control:** water spray
- **Randomized trial:**
  - 8 plants/treatment
  - 4 randomized replicate blocks per treatment
- **Measurements:** Plants monitored for mite damage, mite count score, and mite egg count score

## TetraCURB Kills Two Spotted Spider Mites



Photo taken at the completion of the trial (week 6)  
Negative control (left) and TetraCURB Concentrate treatment (right)  
side by side

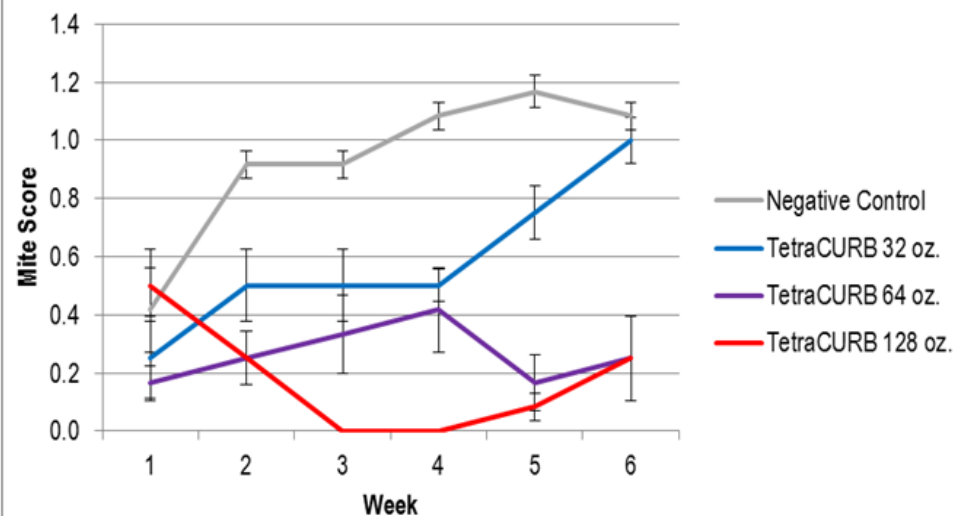


# Trial results

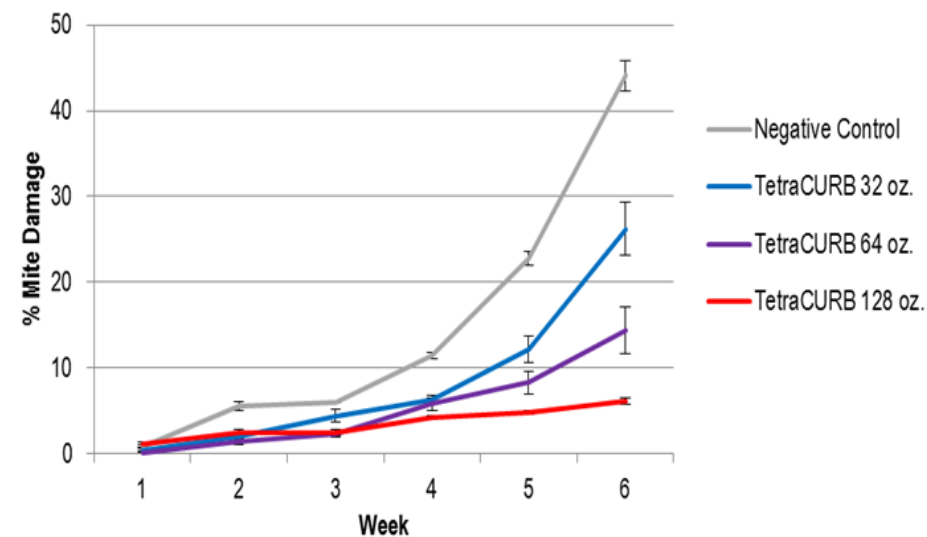


TetraCURB shows a dose response for different usage rates

### Mite Score / Week



### % Mite Damage / Week



# TetraCURB™ Organic



An OMRI Listed®, essential oil-based blend, (rosemary, clove, and peppermint) **contact biopesticide** designed to kill and repel spider mites on all plants including food crop.



- *Approved for organic crop use*
- *54.95% active ingredients in the concentrate*
- *Quick knockdown*
- *No phytotoxicity*
- *Environmentally friendly alternative to synthetic pesticides*





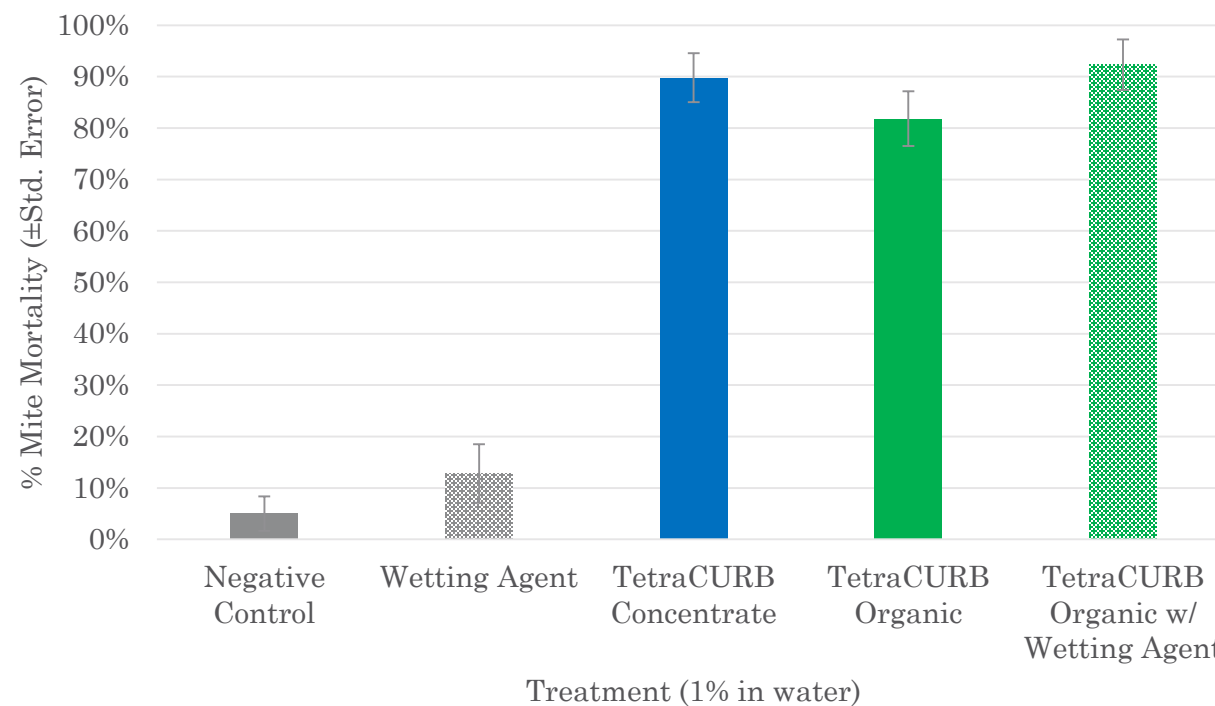
# TetraCURB™ Organic



An OMRI Listed® rosemary oil-based **contact biopesticide** designed to kill and repel spider mites on all plants including food crops



- *Approved for use on organic crops*
- *54.95% active ingredient in the concentrate*
- *Quick knockdown*
- *No phytotoxicity*
- *Good spreadability, but enhanced efficacy with addition of a wetting agent*





## Hypothesis: TetraCURB can effectively control multiple insect orders

- Lepidoptera - moth/butterfly/caterpillar
  - Cabbage looper (*Trichoplusia ni*)
- Hemiptera – true bugs
  - Asian citrus psyllid (*Diaphorina citri*)
  - Western tarnished plant bug (*Lygus hesperus*)
- Coleoptera – beetle
  - Japanese beetle (*Popillia japonica*)
- Diptera – fly
  - Spotted wing drosophila (*Drosophila suzukii*)





An oil-based blend (thyme, spearmint, corn) **contact biopesticide** designed to kill and repel thrips and small, soft-bodied, plant sucking insects (i.e. aphids, whitefly, etc.) on all plants including food crops

- *60% active ingredients in the concentrate*
- *Multiple MoA for lower insect resistance*
- *Quick knockdown*
- *No phytotoxicity*
- *Environmentally friendly alternative to synthetic pesticides*







# CROP TECHNOLOGIES

*Thank you*

