Developing a multi-pest management strategy in citrus

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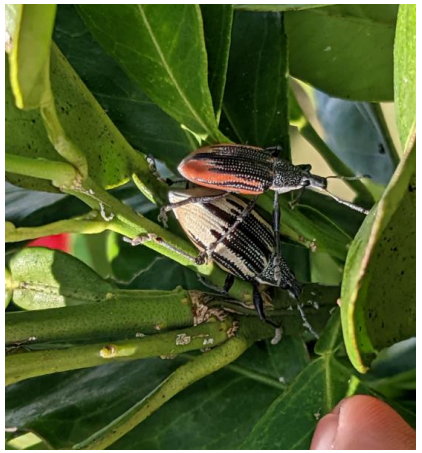
Take home message

- Taking advantage of tree phenology, the associated pest cycles, and chemistries that impact multiple pests save growers money and time for managing pests.
- Bulimulus snail management is an ongoing challenge, but we have some tools to help!

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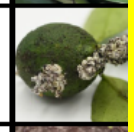
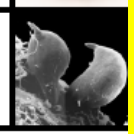
Seasonal Pest Pressure in Florida Citrus

This is generalized pest life cycle and may vary by region, fruit variety, and/or management practices.

High pest abundance | Low pest abundance | No need to monitor

CITRUS PEST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Asian Citrus Psyllid 												
Citrus Leafminer 												
Diaprepes Root Weevil 												
Lebbeck Mealybug 												
Bulimulus snail 												
Citrus Rust Mite 												
Citrus Nematodes 												

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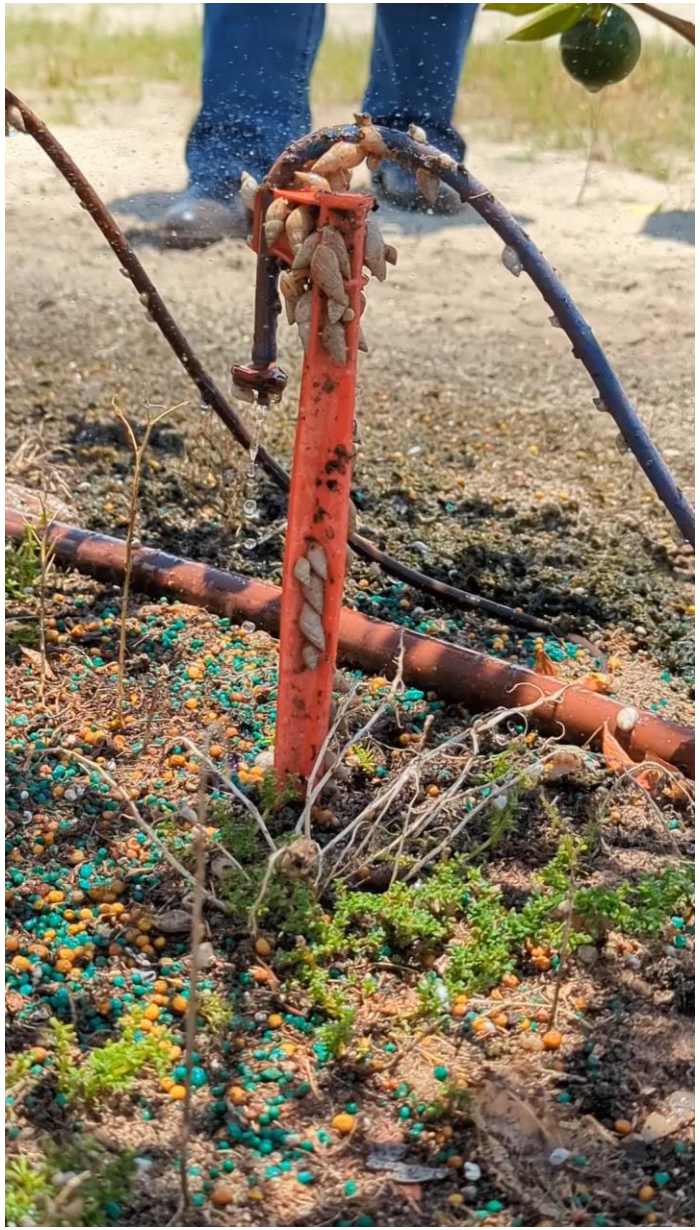
Bulimulus snail updates

- No chapter YET in production guide*
- Not every grove is infested with these snails, so why do we care about these snails?
  - Clogging microjets- impacts the distribution of water and micronutrients if fertigating
  - Defoliate young trees in IPCs
  - Exacerbate previous damage



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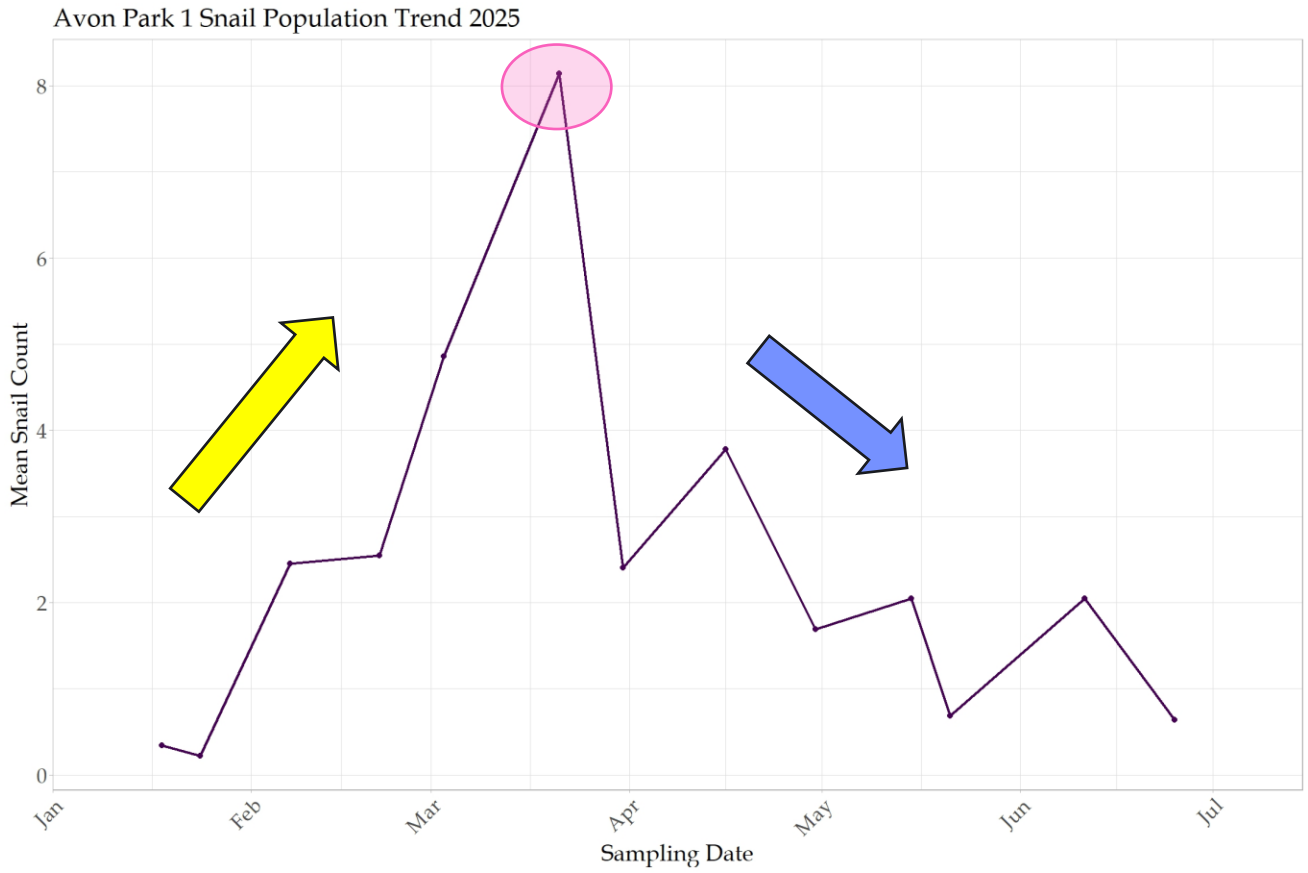
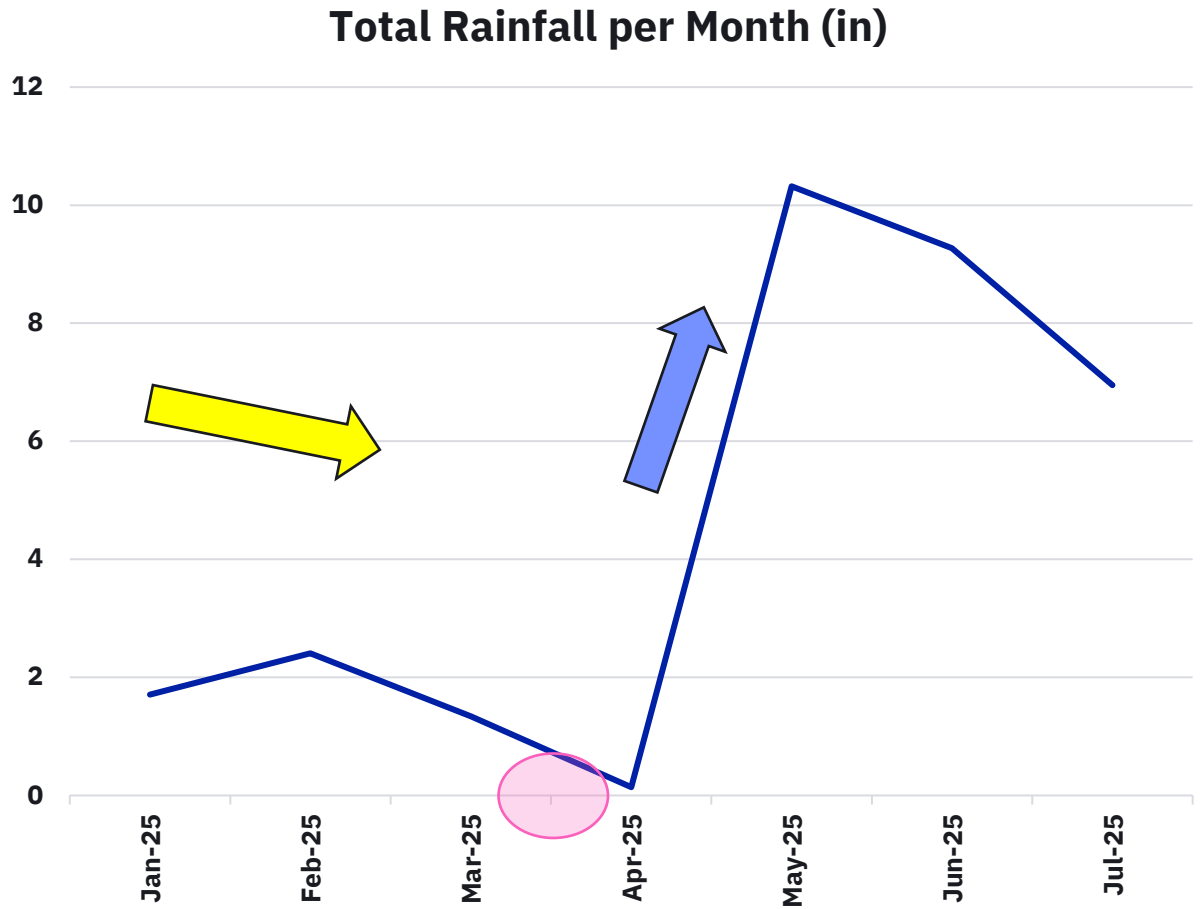
*Data are part of an ongoing study funded by CRDF

Bulimulus snail updates

- Trapping data (March 2023- present) show trends that suggest activity is tightly tied to moisture levels through most of the year
- In hot, dry periods, snail activity appears limited to evening, overnight, and early morning times

Rainfall vs relative activity





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Bulimulus snail daily activity patterns

- Snails appear to “disappear” in cooler temperatures- where are they going? Are they still active?
- Using Harmonic Radar and RFID (see booth in exhibit hall), we are tracking snail movement patterns in groves to describe daily activity

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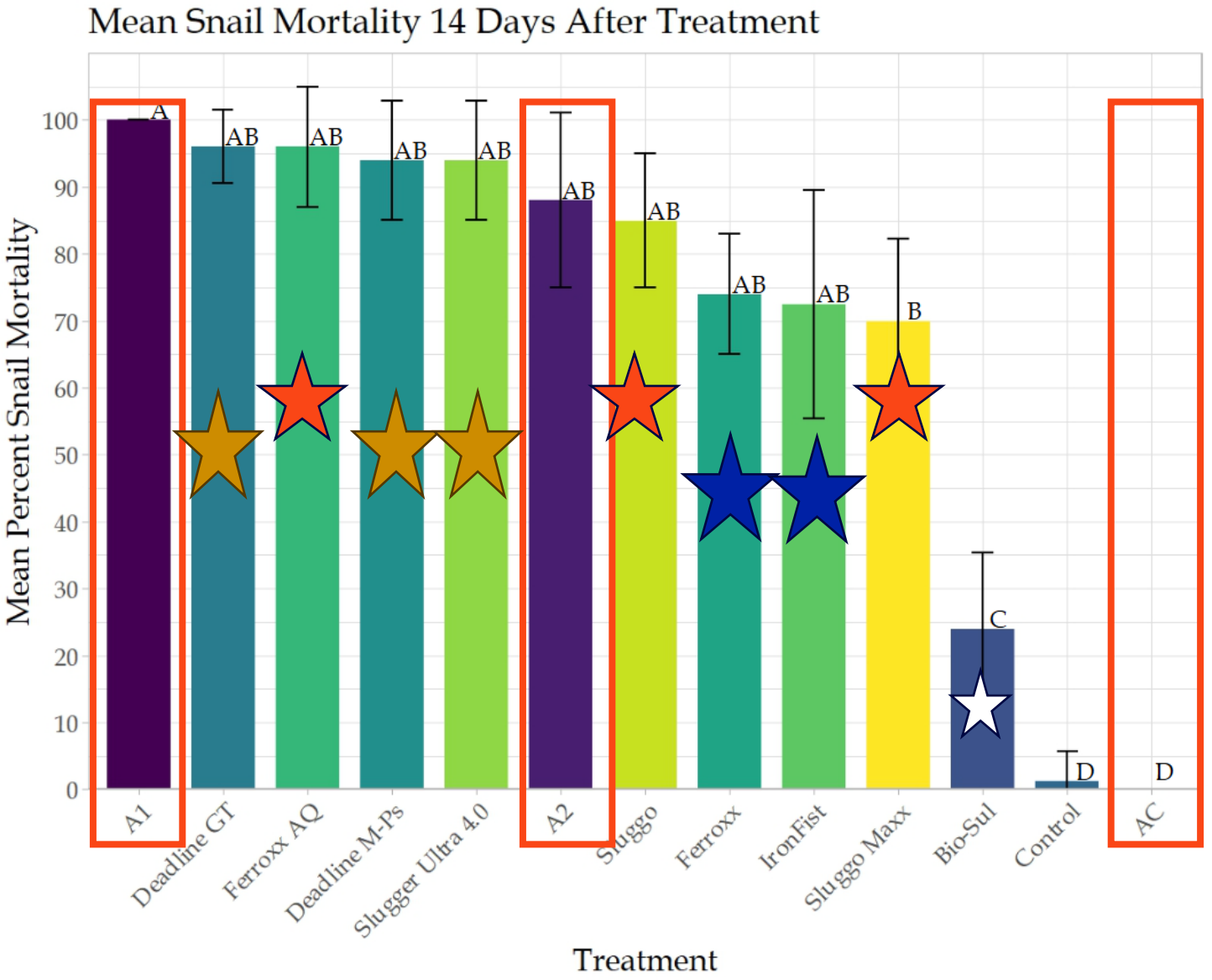
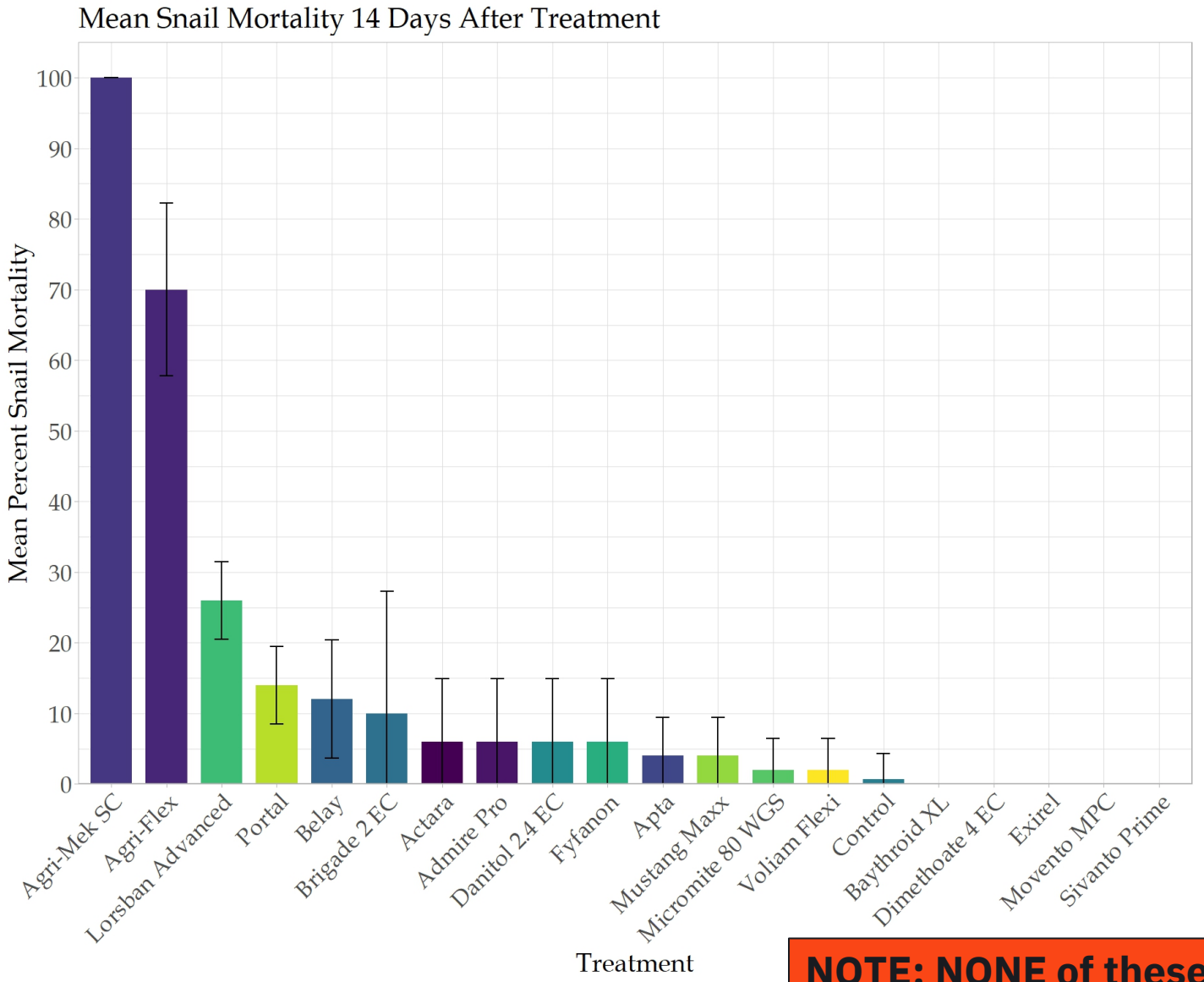
Chemical management updates: Baits



- Commercially available baits tested at 10x maximum rate
- Active ingredients:
  - Metaldehyde
  - Sodium Ferric EDTA
  - Iron Phosphate
  - Sulfur
- Evaluating new bait active labelled “A1”and “A2” from Apex Bait Technologies
- New bait looks as effective as the most effective currently available bait chemistry, but with fewer potential non-target effects
- Stay tuned for more data on this product!

Efficacy of insecticides on Bulimulus snails



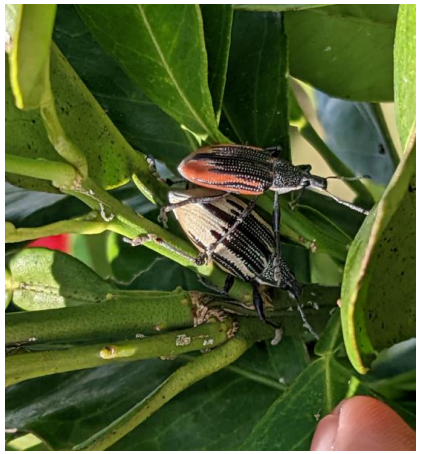
- Snails, fresh leaves, and sand lightly sprayed with water to ensure snail bodies are exposed to pesticide
- Chemistries with abamectin have the greatest CONTACT mortality
  - **To work in the field, this material MUST make contact with the snails' body**
  - No residual activity of abamectin

NOTE: NONE of these products are recommended for snails yet!

Conclusion

- Insect, mite, and snail management are often moving targets in grove management
- Using documented population patterns coupled with field observations in your grove, you can make the most of your management actions by using chemistries that impact multiple pests at one time

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THANK YOU

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Link to the Florida Citrus Production Guide:

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