

# Use of Mulches for Control of Pest Thrips in Avocado Orchards



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# Overview

- **Background on CA avocado industry**
- **Overview of key pest biology in avocado orchards**
- **Rationale behind evaluating mulches for thrips suppression in avocado orchards**
- **Summary of major findings on entomopathogenic fungi, nematodes, & predatory mites from field surveys**
- **Have we demonstrated field level impacts on pest populations?**
- **Can cover crops play a role in controlling GWSS populations in CA?**

# Avocado Production in California

- CA produces 90% of all avocados in the USA
- San Diego produces 45% of the annual crop by value
- Hass cultivar accounts for 85% of harvested fruit
- Approx. 6000 growers producing 165,000 tons of fruit on 58,000 acres
- Crop worth \$300 million



Avocados are grown from San Luis Obispo to San Diego.

# **Avocado Thrips, *Scirtothrips perseae*** **Nakahara (Thysanoptera: Thripidae)**

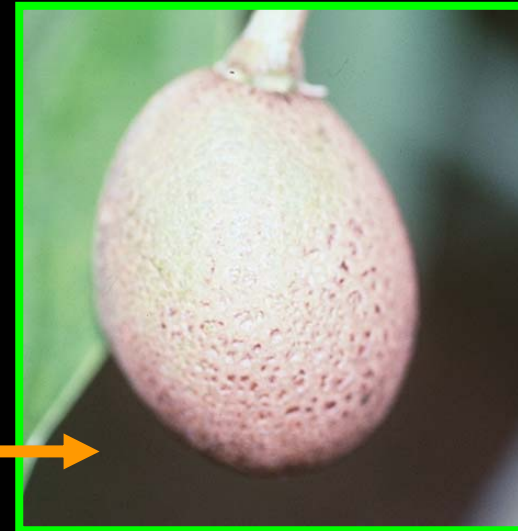
- **First discovered in CA in 1996 in Ventura & Orange Counties**
- **Similar to specimens found on smuggled avocados from Oaxaca at the Port of San Diego in 1971**
- **Undescribed species when first discovered. Officially named in 1997**
- **Appears to be monophagous in CA and native to Mexico & Guatemala**
- **CA populations originated in central Mexico**
- **Crop losses \$8-13 million per yr**



# Avocado Thrips Feeding Damage



Leaf scarring



“Alligator Skin”  
on small fruit



Elongate scarring  
on maturing fruit

# Distribution of Avocado Thrips (*Scirtothrips perseae*) in Central America



*S. perseae* replaced by new *Scirtothrips* sp. in Costa Rica

# Mulches for Avocado Thrips Control

- Composted organic yard waste
  - Root rot control
  - Water retention
  - Improved soil fertility
  - Weed suppression
  - Improved plant growth
  - **Thrips control????**



