

# Mites in Desert Citrus

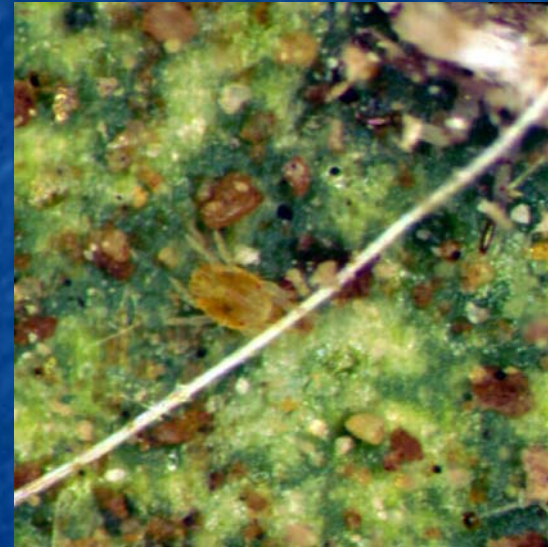
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# Primary Mites of Concern

- Yuma Spider Mite
  - *Eotetranychus yumensis*
  - Occasionally a problem.
  - Has been prevalent in large numbers in Yuma County for the past 2 years.

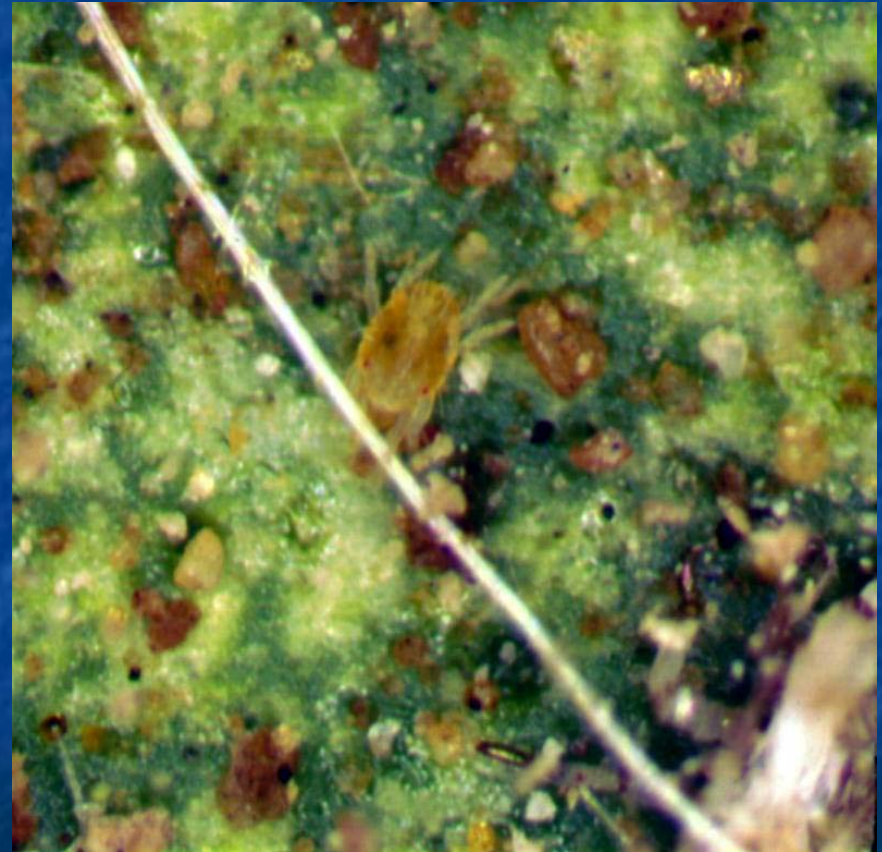


- Flat Mite
  - *Brevipalpus lewisi*
  - Common every year.
  - Sometimes reaches damaging levels.



# Yuma Spider Mite

- Identified in 1934 on lemons in Yuma, AZ.
- Habits
  - Wide host range, prefers lemons.
  - Feeds primarily on the underside on the leaves, often along the edge of the grove along dusty roads.
  - Deposits webbing on the underside of the leaves which collects dirt.
  - Little is known about its life cycle.
- Identification
  - Medium sized.
  - Yellowish color with small red eye spot and some dark pigmentation.
  - However, color can vary depending on host and climate.



# Yuma Spider Mite

- Damage
  - Feeding on leaves causes stippling and when abundant may result in leaf drop and may contribute to “fall dieback” or “buggy whipping”.
  - Feeding on the fruit
    - Thought to cause a “bleached” or “bronzing” appearance.
    - May cause scabbing and pitting.



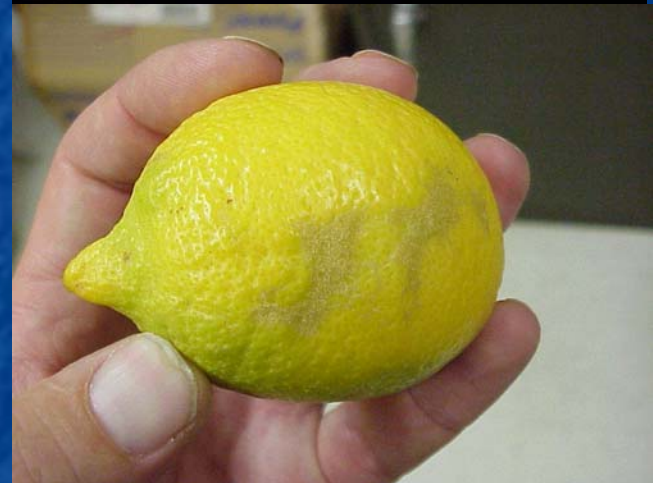
# Flat Mite

- Identified in 1942 on lemons in Porterville, CA.
- Habits
  - Wide host range.
  - Feeds primarily on the fruit, but may be found on the leaves.
  - Does not deposit webbing.
  - Eggs are reddish and are laid on the fruit or leaves.
  - Present year around and hide in crevasses in the winter, become most prevalent beginning in July.
- Identification
  - Extremely small,  $\sim 0.25\text{mm}$  in length and are flat.
  - Adults are amber to reddish with black pigmentation.
  - Immatures are usually bright red.



# Flat Mite

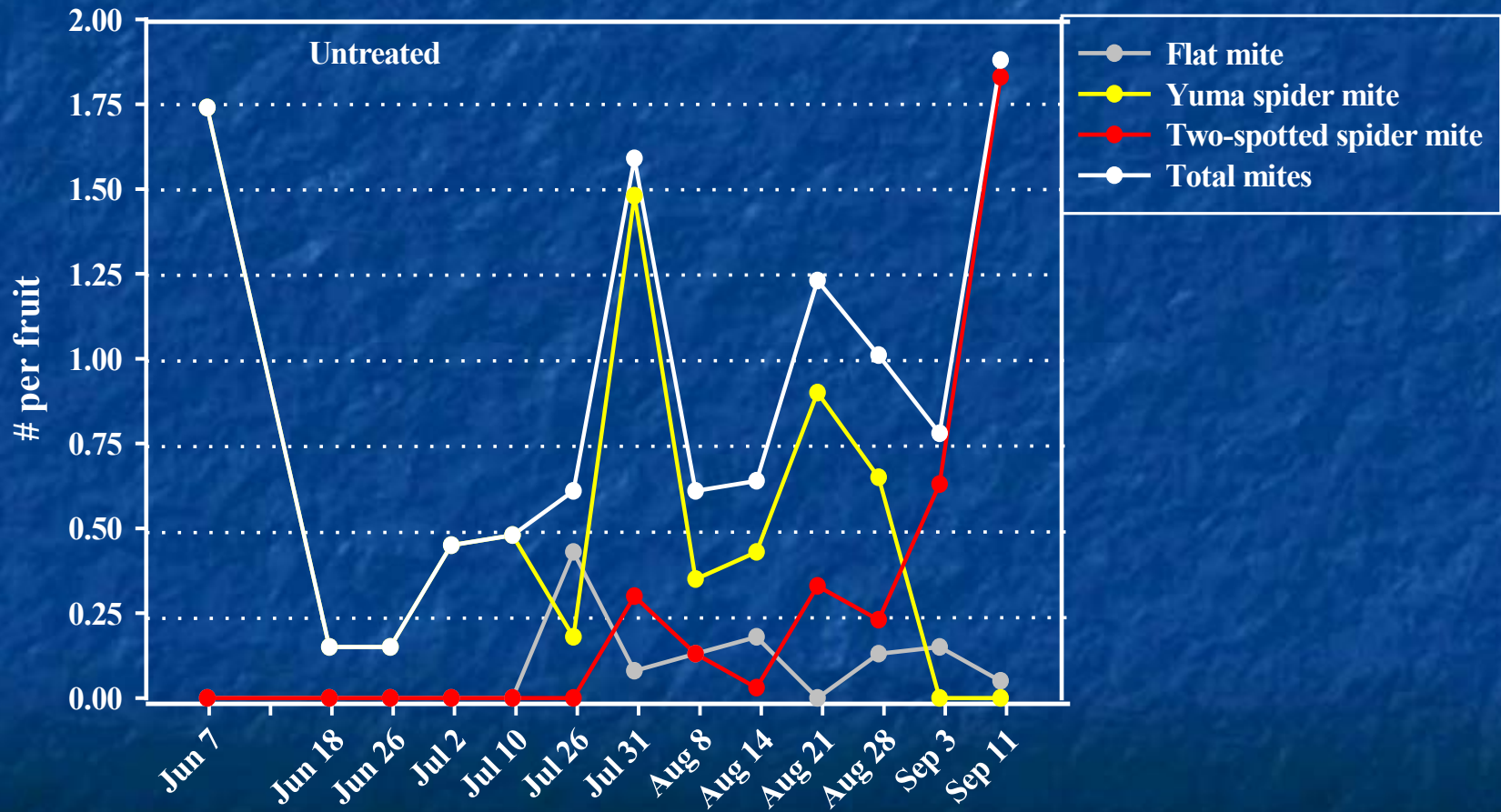
- Damage
  - Feeding begins where thrips or other pests have fed.
  - Infestation usually begins under the button and then spreads.
  - Injury due to mites is more irregular than thrips and more corky in appearance.



# Mite Damage Study

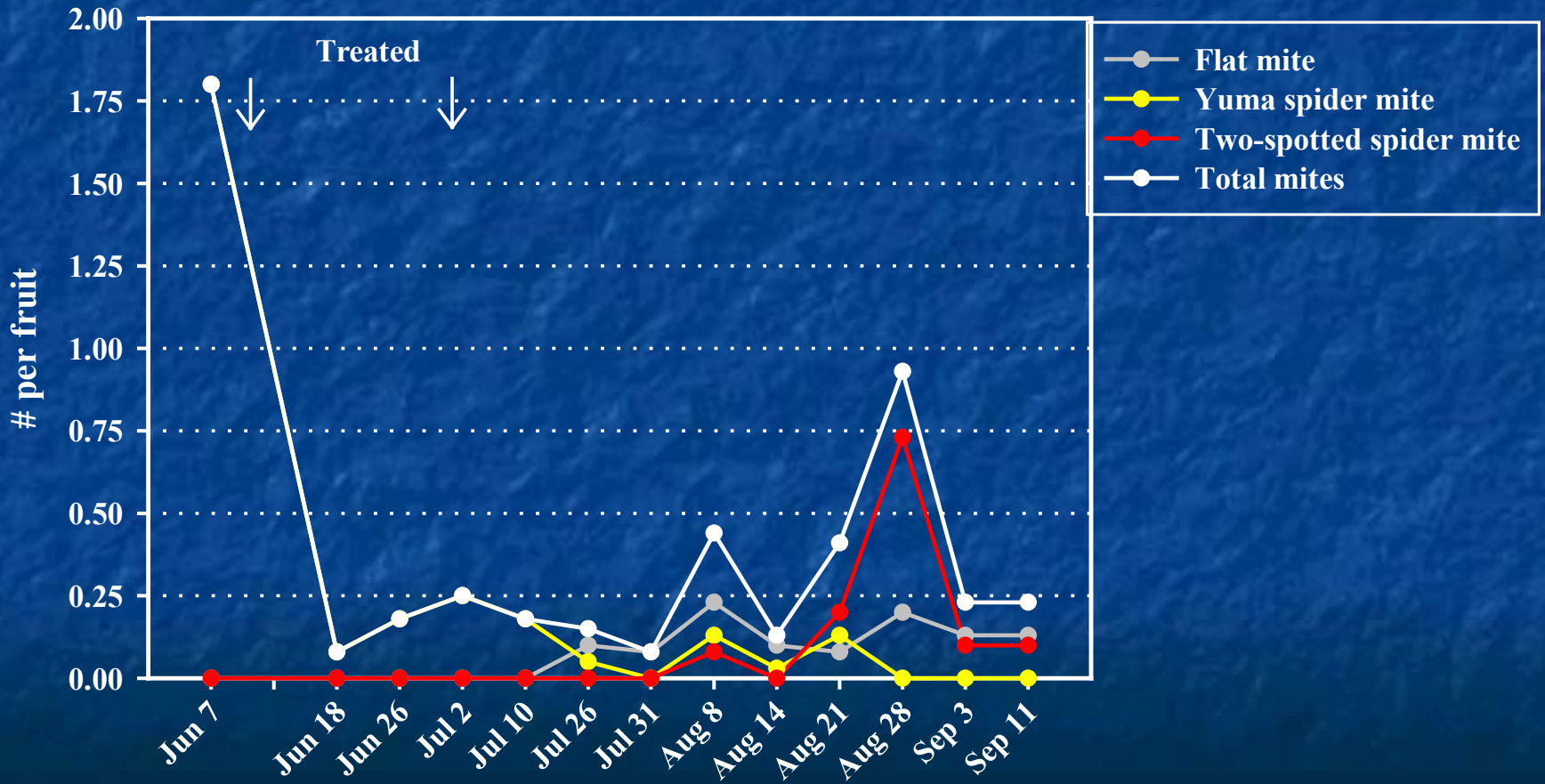
- Flared mites in an 8 ac block of 12 years old lemon using acephate.
- Used a randomized complete block design with 2 treatments and 4 reps per treatment.
- Each plot was 5 trees by 5 trees.
- Treatments
  - Untreated
  - Danitol at 21 oz/ac + Kinetic at 0.1%v/v.
  - Applications made using an orchard sprayer, 150 gal/ac.
- Counted the number of mites per fruit.

# Mite populations in lemons, 2002

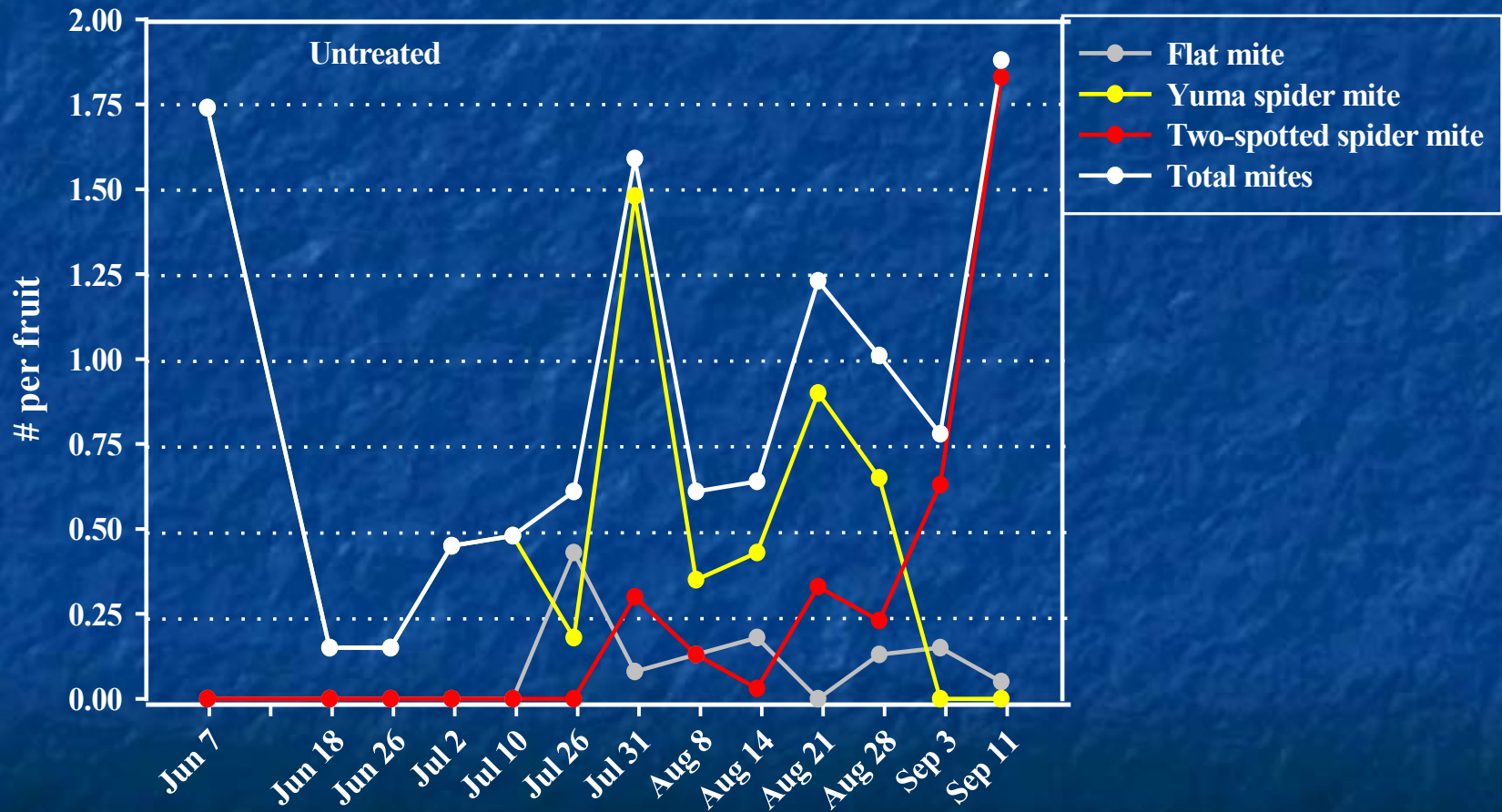




# Mite populations in lemons, 2002



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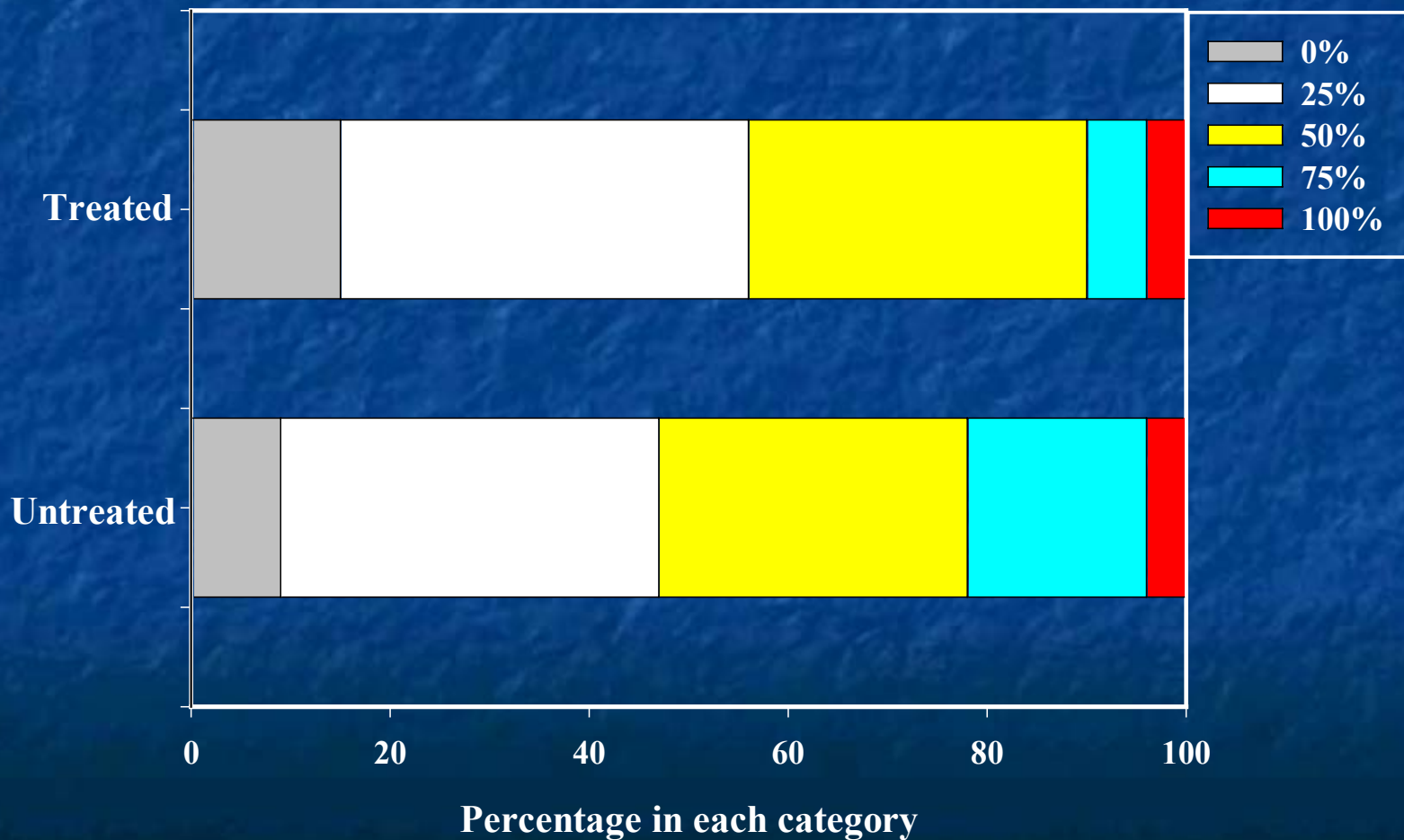
# Typical Damage



# Damage Rating

- Used a rating scale.
- Divide each fruit into four longitudinal quadrants.
  - All quadrants clean - 1
  - One quadrant with damage - 2
  - Two quadrants with damage - 3
  - Three quadrants with damage - 4
  - Four quadrants with damage - 5

# Mite damage in lemons, 2002



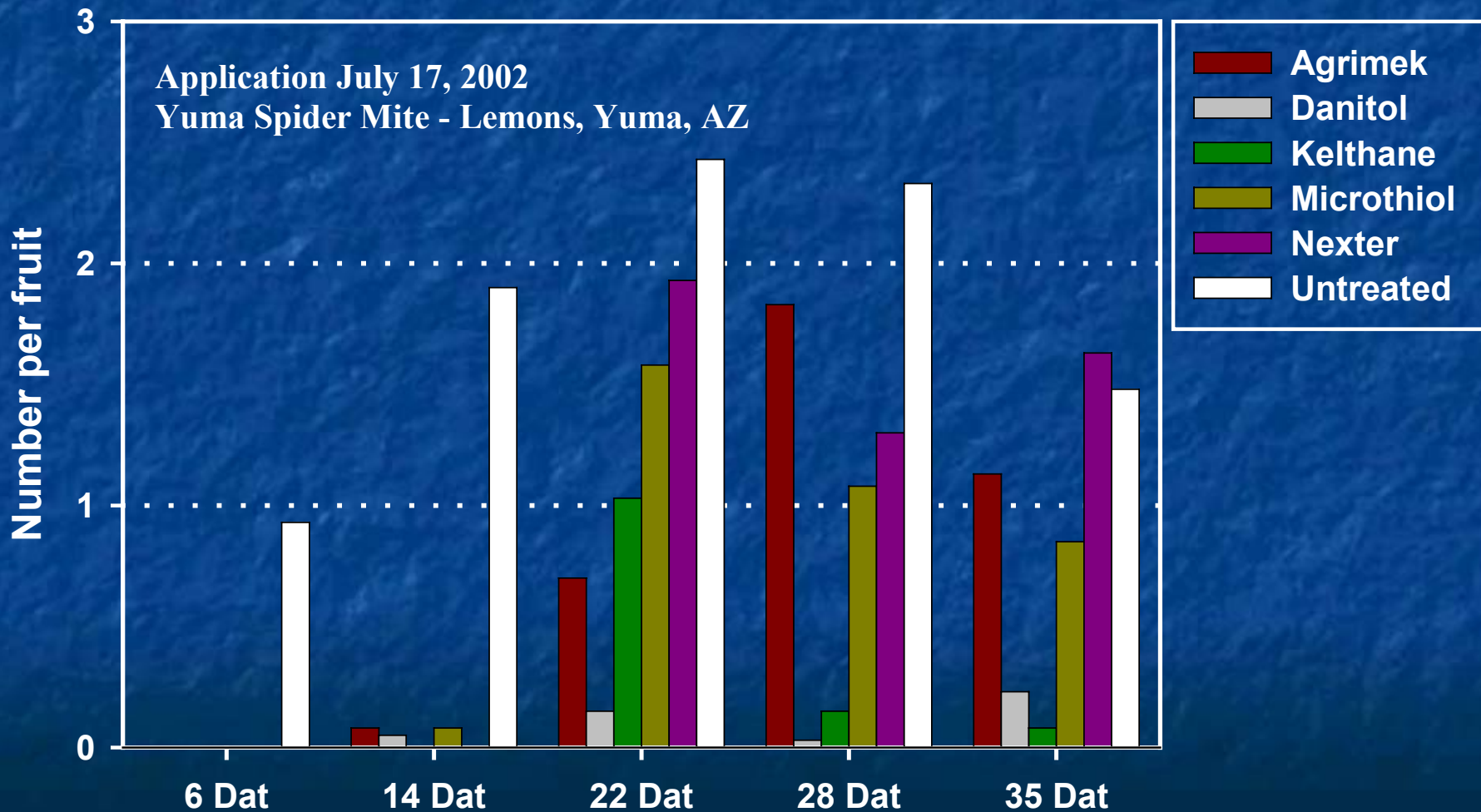
# Mite Efficacy Trial

Treatments	Rate
Agri-Mek	8.0 oz/ac
Danitol	21.3 oz/ac
Kelthane MF	6 pts/ac
Microthiol 80 WP	10 lbs/ac
Nexter	8.0 oz/ac
Untreated	-

*All treatment included Kinetic at 0.1%v/v*

*Treatments were applied with a vertical boom sprayer at 80 gal/ac*

# Mite Efficacy Test



# Conclusions

- It was evident that mites can cause significant damage in regard to fruit appearance.
- These data suggest that Yuma mite may be as important as flat mite in damaging the fruit.
- Mites should be scouted for throughout the summer, at least through July.
- We are not certain at what density miticides should be applied, but the number maybe as low as one mite per fruit.
- All miticides evaluated have proven effective for at least two weeks.