



Spider mite management

New choices for 2005

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Pear IPM

- **Many tools**
 - For many pests
 - Most new tools control more than one pest
- **Problem of plenty**
 - IPM system is:
 - More complex
 - More considerations
 - More decisions
 - (more cost?)



Hard or soft?

- **Mating disruption**
 - Is an important option
 - Esp. in soft programs
- **Chemical management**
 - Remains most important
 - Even in soft programs
- **Biocontrol is a good goal**
 - But tough to rely on
- **Integrate**
 - Use the best of both chemical and biological controls



New registrations

- Calypso - Sept 2003
- Zeal - Sept 2003
- FujiMite - August 2004
- Pending
 - Kanemite (acequinocyl, Arvesta)
 - Applaud (buprofezin, Nichino America)
 - Clutch (clothianidin, Arvesta)
 - Rimon (Diamond, novaluron, Crompton)
 - (flonicamid, FMC)



New registrations

- So many choices
- Only two new modes of action
 - New products are all in the same classes as available materials
 - Applaud, Zeal
 - Some work better than available comparable compounds
 - Fujimite
 - Rimon



Lots of new choices

- **Getting through registration quickly**
 - OP-replacements
 - Safe for consumers
 - More environmentally-friendly
- **Some new classes**
 - More chloronicotinyls
 - More METIs
 - Unique miticides



Zeal

- First use in 2004
- Valent
 - Excellent miticide
 - Unique mode of action
 - Selective
 - Fits well in resistance management
 - Use it once per year
 - Use Acramite in alternate years
 - Envidor from Bayer
 - Another miticide on the way
 - Also selective and effective



FujiMite

- Registered late last season
- Nichino America
 - METI - related to Pyramite / Nexter
 - Targets
 - Spider mites
 - Excellent control of TSSM
 - Also ERM
 - Perhaps rust mites
 - Pear psylla
 - Good control of PP
 - Short PHI makes it useful
 - No degradation in late season control

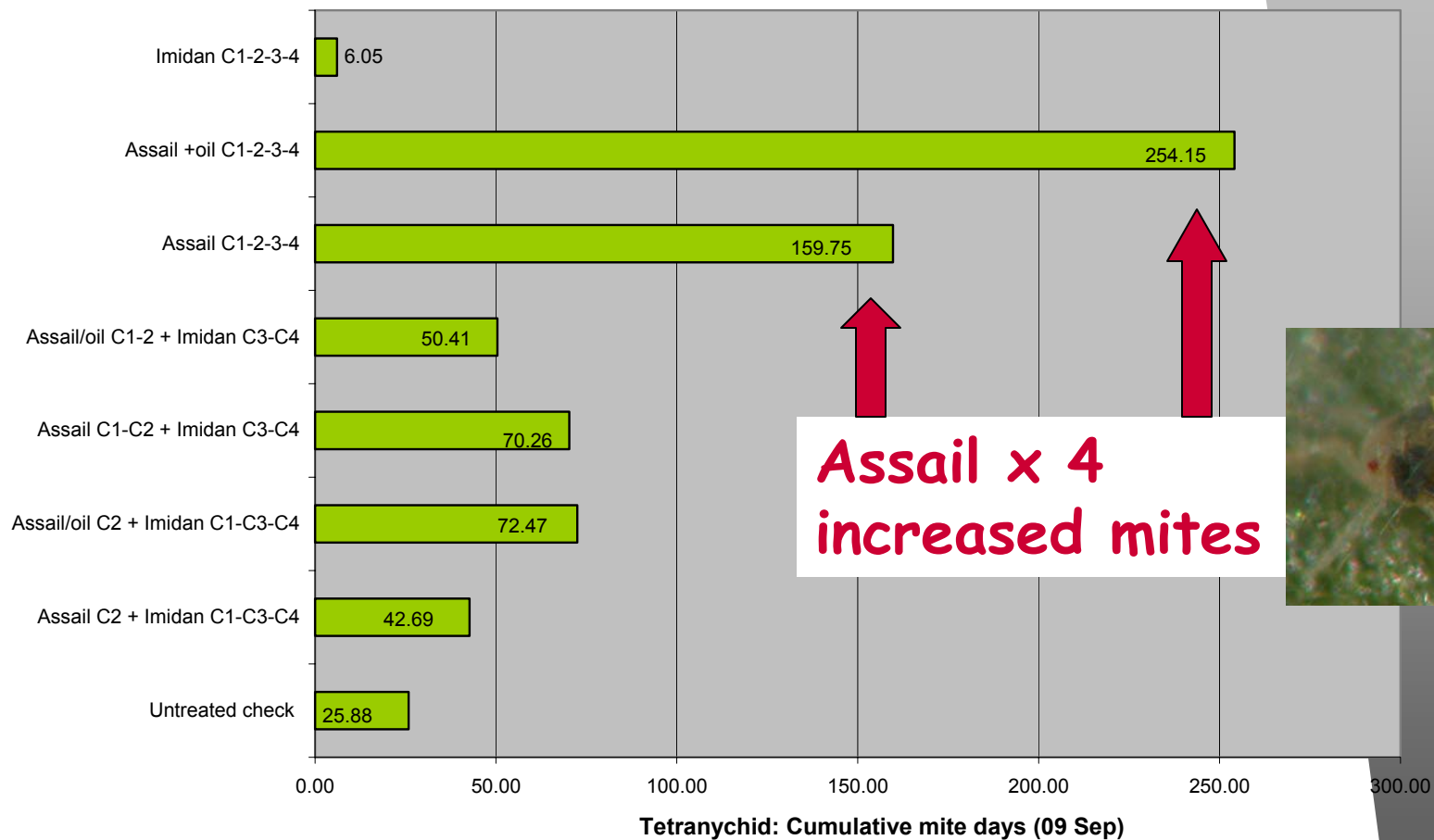


Neonicotinyls and mites

- Problems with mite increases noticed
 - First noted with Provado in 1995
- Early research with Assail also noted problems
 - In development tests
 - Small plots
 - Observations over many trials confirm it
 - However, it doesn't always occur
 - The more you use, the more likely the mites



Spider mites in Assail-treated apple



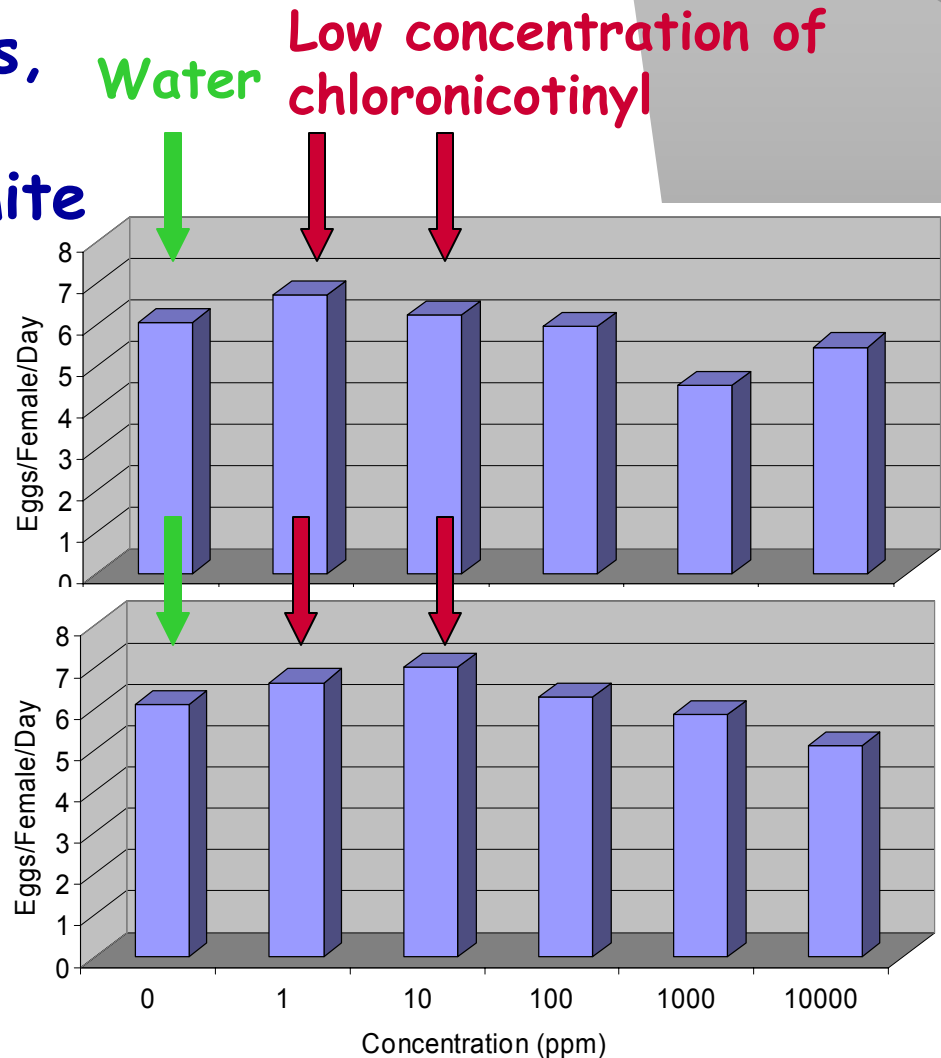
Viagra for mites?

- At low concentrations, Assail and Calypso appear to increase mite reproduction



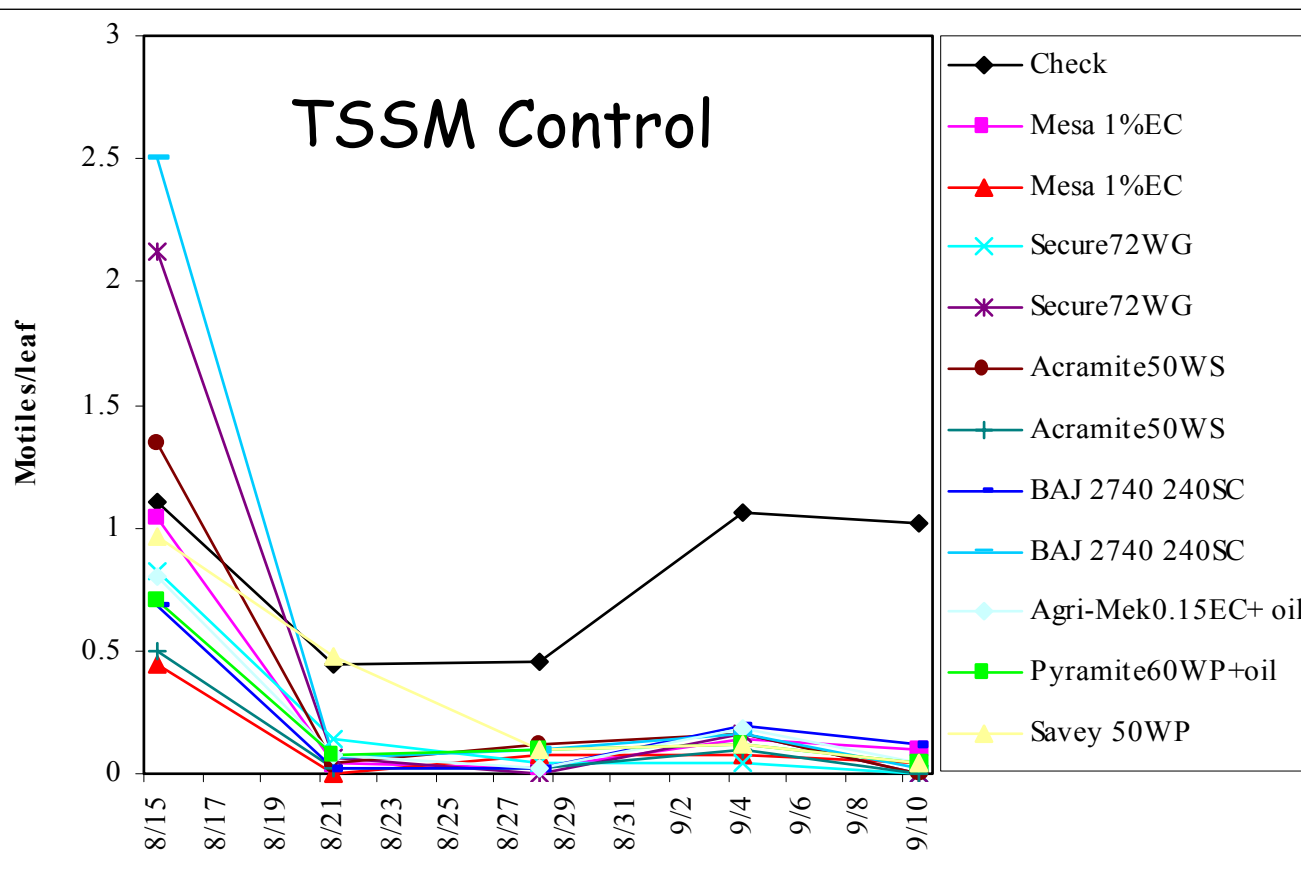
Assail

Calypso



New miticides

- All work well in controlling two-spotted spider mites



Zeal = Secure
BAJ = Envidor