Insect Pests of Roses

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Pest Management

- Detecting and identifying pests are the first steps in managing insects
- Inspect plants regularly for pests and injury (i.e. check the underside of a set of leaves for mites or aphids)
- Not all insects that frequent plants are damaging; some are incidental, pollinators and beneficial
- Keep an eye out for new pests
One of the biggest problems in pest management is the introduction and establishment of invasive pests
Recognizing the Good Guys

**Predators**
- Kills and consumes more than one prey
- Beetles, bugs, mantids, flies, mites, spiders

**Parasites**
- Kills and consumes less than or equal to one host and lives in or on the body of its host
- Wasps, flies

**Pathogens**
- Grow in or on the host
- Viruses, Fungi, Bacteria
What is this?

Good Guy ??

Bad Guy ??

Photo: S. Wainwright
Common Pests of Roses in Florida

- Aphids (yellow rose)
- Scale insects
- Thrips (Florida flower and western flower, chili thrips*)
- Beetles
- Leaf-cutter bees
- Two-spotted spider mite
Aphids

- Soft-bodied, pear-shaped insects with cornicles
- Relatively long legs and antennae
- Vary in color from black, green, yellow to pinkish
- Feeding causes distortion of new growth
- Large amount of honeydew and sooty mold
- Generally occur early in the Spring but may be found throughout the year
Aphids
Yellow Rose Aphid

- Yellow-green
- Highest populations occur in late spring and early summer, but may be present throughout the year
- Feeds on the leaves and buds

Rose Aphid

- Pink or green
- Feed on roses and other related plants (photinia, pyracantha, some fruit trees)
- Often found in clusters on twigs and buds
Aphid Management

- Commonly found on the underside of leaves or on stems in clusters or colonies
- Natural biological control
- Insecticidal soaps
- Horticultural oils
- Insecticides
  - Acephate, azadirachtin, carbaryl, imidaclorpid, malathion, permethrin
Scales and Mealybugs

Armored Scale  Soft Scale  Mealybugs

Wax Covering

White powdery or cottony, wax-like mass
Soft Scales

- **Brown soft scale**
  - Adult female oval and slightly convex; pale yellowish-green to brown
  - Cosmopolitan in tropical and subtropical regions
  - All stages are found all year
  - Attack leaves and twigs
  - Often controlled by natural enemies

- **Long brown scale**
  - Adult female elongate-oval, moderately convex and smooth.
  - Found on the branches, leaves and stems
  - Not considered an economic pest
- **Green scale**
  - Adult female oval, pale green, slightly transparent, flat to slightly convex
  - Cosmopolitan in tropical and subtropical areas
  - Usually found on the underside of leaves along midveins
  - Serious pest of numerous crops

- **Black Scale**
  - Adult female dark brown to black, nearly round, oval and very convex with H-shaped ridges
Armored Scales

- **Rose scale**
  - Circular or oval, flat, thin, white or dirty white
  - Most frequently reported on rose and blackberry
  - Generally distributed throughout Florida
  - Generally not a serious pest

- **Latania scale**
  - Circular, strongly convex, usually a dirty white
  - Reported on Australian pine, loquat, palms, and rose
  - Generally distributed and common throughout Florida
  - Usually controlled by natural enemies

[http://www.sactorose.org](http://www.sactorose.org)

[Woodypest.ifas.ufl.edu](http://Woodypest.ifas.ufl.edu)
Armored Scales

- San Jose scale
  - Circular, slightly convex, smoky black to gray
  - Most frequently reported on firethorn, pear, peach, plum and rose
  - Generally spread throughout Florida
  - Considered a serious pest of pear, peach and plum

http://www.sactorose.org
Thrips on Roses

- Thrips feed on pollen but also attack tender plant tissue
- Attack leaves, buds and petals
- Recently injured tissue looks silvery
- Heavy infestations result in discolored, deformed growth and blemished, deformed flower petals
- Damage to the rose bud is most noticeable in light colored roses
Thrips on Roses

**Flower thrips**

[Image of Flower thrips]

Woodypest.ifas.ufl.edu

**Redbanded thrips**

[Image of Redbanded thrips]

H. Glenn, UF/IFAS

**Western flower thrips**

[Image of Western flower thrips]

http://members.tripod.com/buggyrose/insects
Chili Thrips (*Scirtothrips dorsalis*)

- Originally from south Asia; found in Florida in 2005
- Currently found in numerous counties from Key West to Gainesville
- Feeds on a variety of wild and cultivated plants including ornamentals, fruits and vegetables
- Capable of spreading at least 3 viruses including tomato spotted wilt virus.

L. Osborne, UF-IFAS

H. Glenn, UF/IFAS
- Life cycle - 14-20 days.
- 60 to 200 eggs per female
- Eggs are inserted in plant tissue
- Immatures are pale in color and very small
- Pupation may occur in the soil or on the plant.
- Adults are small (0.5 -1.2 mm), pale yellow to gray in color with incomplete dark stripes on the upper surface of the abdomen.
Thrips Damage

Photo: H. Glenn, UF/IFAS
Damage to Rose Leaves and Bud

Photos: L. Osborne, UF-IFAS
Populations of Chili Thrips on Flowers
Damage Ratings of Roses with Chili Thrips

- Graph showing monthly mean damage rating from Jul-07 to Sep-08.
- The damage rating peaks in Jul-08 and Aug-08, and is lowest in Jan-08.
- The damage rating generally decreases from Jul-07 to Jan-08, and increases in Jun-08 and Jul-08.
Number of Chili Thrips on Plant Parts

![Bar Graph showing the number of chili thrips on different plant parts. The x-axis represents the plant part sampled (Rose leaf, Rose flower, Rosebud, Rose terminal), and the y-axis represents the number of chili thrips per square centimeter. The graph indicates that Rosebud has the highest number of thrips, followed by Rose terminal, Rose flower, and Rose leaf with the lowest number.](image-url)
Populations of Chili Thrips on Rose Cultivars

![Bar graph showing the populations of chili thrips on different rose cultivars. The graph includes the cultivars Angel Face, Don Juan, Pink Summer Snow, Radcon, St. Patrick, and Sun Flare. The y-axis represents the number of chili thrips per square centimeter, ranging from 0.0 to 2.0. The x-axis lists the cultivars. The bars for Angel Face, Don Juan, Pink Summer Snow, St. Patrick, and Sun Flare are labeled with their respective populations (0.59, 1.13, 1.19, 0.98, and 0.73). The bar for Radcon is significantly higher, labeled as 1.64. The chart indicates significant differences between the cultivars.]

- Angel Face: 0.59
- Don Juan: 1.13
- Pink Summer Snow: 1.19
- Radcon: 1.64
- St. Patrick: 0.98
- Sun Flare: 0.73
Chili Thrips - Management

- Numerous natural enemies including parasitoids and predatory mites, thrips, beetles and bugs.
- Various foliar and drench treatments, alone or combined with oil have achieved some success.
- Pesticides that can be used include abamectin (Avid), acephate (Orthene), acetamiprid (TriStar), azadirachtin (Azatin), cyfluthrin (Decathlon), dinotefuran (Safari) imidacloprid (Merit), novaluron (Pedestal), and spinosad* (Conserve).
Fuller Rose Weevil

- Light brown to ash gray, flightless weevil
- Feeds on leaf margins but heavy populations can consume the entire leaf except the midrib
- Usually remain hidden during the day
- Both larvae and adults are pests
- Widely distributed with a broad range of host plants

www.ipm.ucdavis.edu
http://members.tripod.com/buggyrose/insects
Leaf-cutter Bees

- Similar in size to honeybees, but are blackish in color
- Solitary bees that nest in burrows and hollowed twigs and stems
- Adult females cut circular to elongate pieces of leaves from roses for their nests
- Control generally not recommended
**Two-spotted Spider Mite**

- Tend to feed on the underside of rose leaves
- Short life cycle so populations grow quickly
- Drought-stress roses are more susceptible
- Webbing may be present
- Water spray, remove fallen leaves, remove weeds, bifenthrin, soap, oil

[http://members.tripod.com/buggyrose/insects](http://members.tripod.com/buggyrose/insects)
Pest Management in Roses
Cultural, Non-Chemical and Biological Control

- Selecting proper varieties; resistant varieties
- Keeping plants healthy by proper planting and care
- Maintain clean, closely mowed areas next near roses to help deter insects migrating into the plantings
- Dispose of dead leaves, trash or debris and periodically disrupt landscape timbers or rocks
- Prune properly to remove dead canes which become nesting sites for insects such as the leaf-cutter bees.
Pest Management in Roses
Cultural, Non-Chemical and Biological Control

- High-pressure water sprays can dislodge mites and other pests from the plants
- Start when pests are first detected and repeat regularly
- Hand remove insect pests when in low numbers
- Natural enemies may be released to help control pests. It is very important to have an understanding of the pests and their natural enemies before release.
Pest Management in Roses
Chemical Selection and Safety

- Pesticides are safe and effective when used as recommended
- Whenever possible choose the least toxic, most target-specific product available
- Read the label
- Use appropriate application equipment
- Keep application equipment clean and in good working condition
- Apply the correct dosage of pesticide
- Store pesticides in a secure place
Pest Management in Roses
Chemical Selection and Safety

• When using a pesticide for the first time, test the material on a few plants only
• Some rose varieties may be burned by certain chemicals or combinations of chemicals, or by their use under certain conditions such as temperature extremes
• Take particular care when using acephate and malathion
Web Resources

- Pests of Roses in Florida;
  http://edis.ifas.ufl.edu/document_ep371
- Insect Management on Landscape Plants
  http://edis.ifas.ufl.edu/document_ig013
- Thrips on Ornamental Plants
  http://edis.ifas.ufl.edu/document_mg327
- http://trec.ifas.ufl.edu/mannion
- http://edis.ifas.ufl.edu/ or http://creatures.ifas.ufl.edu/

- Pest Alerts
  - University of Florida
    (http://extlab7.entnem.ufl.edu/pestalert/)
  - DOACS (http://doacs.state.fl.us/~pi/enpp/pi-pest-alert.html)
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