

The Concealed Assailant ... **UNDERSTANDING THRIPS**

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There's a treacherous pest lurking in your rose garden. The invader is extremely small and unnoticeable ... so well camouflaged that its sabotage is accomplished before you realize your roses have been assaulted. Many a rose bloom has been ruined because of its underhanded attacks. The name of the enemy:

Flower Thrips



Thrips have very small, slender bodies (no more than 1/16" long), with two pairs of narrow wings with long hair like bristles. They vary in color from bright

yellow to brown. There are about 5,000 species of thrips. The species that attack roses are *Frankliniella tritici*, Florida Flower Thrips and *Frankliniella occidentalis*, the Western Flower Thrips. The word "Thrips" is singular and plural. One of these sneaky little insects is still a thrips - not a thrip.

Before your rose buds even begin to open thrips are attacking them!! Through the tightly closed sepals of unopened buds adult female thrips bore unnoticeable holes. There, into the outer layer of the developing buds, she deposits her eggs. Approximately three days later the first stage larva hatch. As the thrips develop, they feed on the succulent plant sap in the flower petals by scratching open the surface and feeding on the cell contents. This results in brown edges on white petals and disfigurement on petals of all colors. You don't realize your roses have been invaded until the buds start to unfurl! Unless you know exactly what

you are looking for, most gardeners cannot see thrips scurrying about in the opening blooms. Tap an affected rose over a white piece of paper - the thrips will land on the paper and can then be seen scurrying about.

In our central Florida gardens thrips seem more prevalent in the Spring and Fall. (Unfortunately this also is the time of year we have our best blooms!!) Knowing this is when thrips attack allows you to be on guard and ready.

Our first line of defense is to reduce the thrips population by removing the infected blooms (in which the thrips are hiding/reproducing) and to throw these blooms away. Place them in a trash can with a tight lid or in a sealed plastic bag. Also pick up and throw away any blooms that have fallen in the beds.

Rosarians can also attack thrips with beneficial insects. The Minute Pirate Bug *Orius*, eats large amounts of thrips. They are known to attack other insects as well but are predominately used against thrips. Adults *Orius* are very small (3 mm long), somewhat oval-shaped, and black with white wing patches and a distinctive sucking beak. To the naked eye *Orius* appear about the same size and color as a flea. Other general predators that feed on thrips are Ladybugs, lacewings and big-eyed bugs.



**Minute Pirate Bug, *Orius*
FEAST ON THRIPS!!**

Another step in the attack against thrips is chemical control. A relatively new insecticide labeled for thrips is Conserve SC (11.6% spino-

sad), which is derived through the fermentation of a naturally occurring bacteria. Conserve SC does an adequate job of deterring thrips, and at the same time does not significantly impact natural predators such as ladybird beetles, lacewings, minute pirate bugs (orius), and predatory mites. Conserve SC can be added to your weekly fungicidal spray mix and will provide some relief. Only add Conserve during those times of year when thrips are most prevalent in your garden. We do not recommend spraying pesticides preventively. Spray them only when you have a problem. Conserve acts very quickly, but it's residual life is short - a few days at most.

If your goal is very clean rose blooms you cannot depend solely on Conserve SC. **You can take further action by spraying or "misting" the buds to kill the thrips where they hide.** You can eradicate thrips by misting the buds showing color (and the opening blooms) with a systemic action insecticide such as Orthene, Cygon 2E, Bayer Advanced Garden Rose and Flower Insect Killer, and Mavrik Aquaflo. It is best to rotate chemicals -- The thrips will build up resistance if you use the same chemical exclusively. Since thrips tend to hide within the flower buds, a contact insecticide is not very effective. A system insecticide is recommended, which when applied, is absorbed into the plant and has a much better chance to eradicate the thrips. Some rosarians report that adding brown sugar or honey at 1 teaspoon per 1 gallon of spray mixture enhances thrips control. It is said that the sugar draws the thrips out of deep crevices to areas of higher pesticide concentration. Use of the pesticide-sugar mixture about twice a week will probably be sufficient to produce acceptable flowers. The more often the buds are misted the more perfect the blooms. As with any chemicals, follow labeled directions and use with caution.

Insecticides targeting thrips should be used only during peak infestations (late spring, and early fall). Products like Orthene and Cygon 2E will kill thrips but will also kill the beneficial insects. To avoid wiping out all your beneficial insects you can use a small hand held spray bottle to mist for the thrips - directing the spray only towards the buds and blooms - not the entire bush.

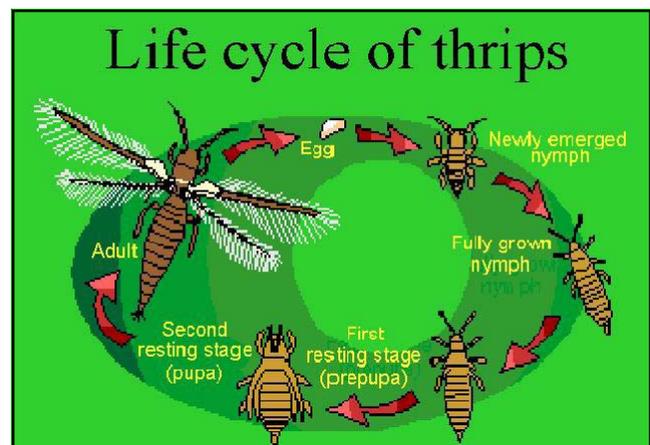
If you are an exhibitor and have some prospects for the awards table, or even Queen, there is a foolproof

way to protect your blooms. Described in an article in *American Rose*, March 1987, bloom covers, or bonnets, can be made out of a super-lightweight spun bonded product called Reemay. This fabric is available from Primary Products (primaryproducts.com). Reemay "bonnets" are an inexpensive way to keep damaging insects away from your roses. Primary Products suggests cutting 18-inch diameter circles and fastening them over your blooms with a twist tie. They state the soft fabric will not damage the blooms, even in windy weather. Ingenious exhibitors have used reemay to fashion all types of protective bonnets to produce spotless blooms.



Reemay Bonnets -- Worn by Royalty Blooms during "Thrips" Season!!

Though thrips will never be totally eradicated from your garden the above methods can help minimize their damage and allow you to still enjoy your rose blooms during "thrips" season. We hope this information has supplied you with the tools necessary to understand thrips and to select your mode of attack.



The six stages of the thrips life cycle lasts about 2 weeks. Adults live about 28 days and lay an average of 44 eggs.

Note: Information contained in this article was taken from numerous online and text sources including those of Cornell, Florida State, Kentucky, North Carolina State, Oregon State, and Texas A&M universities; the Bio-Integral Resource Center, Berkeley, CA; U.S. Dept. of Agriculture; and Agriculture Canada. Additional reference materials from *Insects of North America* (McGavin; Longmeadow Press: Stamford, CT; 1993); *Common Sense Pest Control* (Olkowski, Daar, and Olkowski; Taunton Press: Newtown, CT; 1991); *The IPM Practitioner* (William Quarles, ed.; BIRC: Berkeley, CA); and *Simon & Schulster's Guide to Insects* (Arnett and Jacques; Simon & Schulster, Inc.: New York; 1981).