

“NEW THRIPS” CAUSE SIGNIFICANT DAMAGE TO ROSE FOLIAGE AND BLOOMS

By Geoff Coolidge, ARS Consulting Rosarian

Lately, a lot of folks have noticed some unusual leaf and flower damage on their roses. The symptoms appear on the new leaf and flower growth. (See photos showing damage on the facing page.) The foliage on affected stems is very small, badly crumpled and the undersides of the leaves have brown streaks. Some of the smallest new shoots, barely a quarter of an inch long, appear to be burnt at the tips. The flower buds fail to open. The unopened blooms show patches of brown between the sepals. If you pull back the sepals you will notice **some very small, almost transparent, insects** scurrying out of sight. These minute transparent insects can also be found in large numbers on the new foliage. The open blooms are streaked with brown and contain many of the small transparent insects as well as larger slender black or brownish yellow insects.

These symptoms all point to thrips – but not the common thrips that we are used to seeing in our gardens! The most common thrips in Florida are the Cuban Laurel Thrips and the Western Flower Thrips, which are mainly found in the spring and fall on light colored blooms and usually do not cause damage to the foliage.

It seems a new species of thrips has entered our Florida gardens and its damage has become very apparent over the summer months. Severe damage from these “new thrips” has been recently detected on roses from Miami to Orlando. The damage can occur very rapidly – bushes look fine one day – and show severe signs a few days later. These “new thrips”, which are transparent in their larva stage, are much smaller in size than the thrips we are used to seeing, and therefore harder to detect with the naked eye. We may have a combination of our normal flower thrips and these “new thrips” which attack the leaves in addition to the blooms. Bill Schall, West Palm Beach extension agent for commercial horticulture, has recently sent samples of these recently discovered thrips to the University of Florida IFAS entomology lab for identification. Hopefully, it’s not some new variety blown in from Africa or Asia. (The Cuban Laurel thrips

came from Asia via Africa and the Bahamas.) As soon as we hear back from the University we will update you as to the specifics on this species and any alternate control measures.

Knowing the life cycle of this pest is helpful in controlling its destructiveness in our gardens. Populations of Western Flower Thrips and Cuban Laurel Thrips are usually highest in the spring about the time of our rose shows, so the late summer infestation we are seeing with these “new thrips” is very unusual. Adult thrips can fly very high and can move with the wind great distances even though they like to stay close to their food source. When they move they move in mass they overcome most control measures. By that, I mean naturally occurring predatory insects like lady bugs, lacewings, minute pirate bugs, predatory mites and the like. The adults lay their eggs in the tender leaves of new shoots and flower buds. There are six (6) stages of a thrips life cycle that last about two (2) weeks. They start as eggs, then transition to newly emerged nymph, fully grown nymph, first resting stage (pre-pupa), second resting stage (pupa), and finally adult. It is in the two nymph stages, lasting approximately a five (5) day period that the thrips do the most damage to our roses. It is at the end of the pupa stage the thrips drop down to the soil. They emerge from the soil after two (2) days as new adults and then reach sexual maturity in 1-4 days after emerging. The adult lives approximately 28 days and lay an average of 44 eggs. Most thrips species will produce about 8 – 10 generations in a typical season.

So what can we do to control these “new thrips”? As soon as their damage is first detected (distorted leaves and brown blooms) prune away the infected portions. DO NOT dump them out by the road and wait for the trash man to pick them up. Place the pruned materials in a plastic bag and seal them in tight. The pupa stages in the soil do not feed on the plant. Pruning is the single best action you can take to capture the adults and nymphs. These “new thrips” do not feed on the older leaves, but rather the tender new growth. Unfortu-

(Continued on page 3)



nately, by the time we see the infestation, the cycle is well on its way, and a new cycle of thrips in the pupa stage are preparing to emerge from the soil as adults. After pruning off the infected leaves and stems, treating them with a systemic insecticide while they are in the soil is the next order of business. Systemic insecticides not only kill the thrips that are in the soil, but are also taken up through the plant's roots and are absorbed into the sap, making the entire plant toxic to the targeted pest, and providing long term protection.

Several granular systemic insecticides are available. Bayer Advanced™ PowerForce® Multi-Insect Killer Ready-to-Spread Granules is available at Home Depot or Lowe's. An alternate is Di-Syston systemic insecticide granules, available at local nurseries and some home improvement stores (available at Lukas Nursery in Oviedo). Other alternatives are products that contain Disulfoton, Diazinon and Merit (some Bayer products contain these ingredients). The Disulfoton is a systemic organophosphate. It will remain in the plant a long time, but it tends to kill beneficial insects. Merit (imidacloprid), an ingredient in some of Bayer's new products for roses, is also a systemic, but is less harmful to the beneficial insects. Unfortunately it is not quite as effective at controlling thrips as the organophosphates. It's good for suppression, not eradication, but when used with other control measures, it may be the best long-term option, because it spares the thrips' natural predators.

The third step is weekly spraying of insecticides labeled for thrips. Keep in mind that thrips reproduce rapidly and can build up resistance to the continual use of the same pesticide (especially organophosphates, and some pyrethroids like cyfluthrin). If you haven't been adding Conserve to your program every week, as some have suggested, you should start now and should have excellent results. Conserve is not harmful to beneficial insects and will kill thrips on contact or through ingestion. Conserve is a biological control, it does not have a long residual life and is very effective if not overused. In addition it also kills mites. The next best, but probably most expensive pesticide, is Avid or Abamectin, which will kill thrips and mites and is easy on the beneficial insecticides. The addition of a good spreader sticker with some molasses or brown sugar will attract the trips from the blooms and encourage them to eat or come in contact with the insecticide. Thrips have a very sweet tooth. Next on the rotation list is Merit, good for suppression of thrips on the leaves. I usually spray a contact type pyrethroid with Merit like Talstar or Cyfluthrin. The pyrethroid make for a good one-two punch, but also kill many beneficial insecticides as well. So, if after spraying Conserve the first week and Avid the second week, you observe a noticeable reduction in the number

of thrips, leave the talstar or cyfluthrin out of the mix. The last spray and probably the strongest is Orthene (acephate), which is another organophosphate that has a long residual effect like Merit, but is also deadly to many beneficial insects. That is why Orthene is best used to mist only the buds so as to kill only your target insects.

Let's review:

1. Our usual Thrips (Cuban Laurel Thrips and Western Florida Thrips) breed all year but the heaviest concentrations are during the warmest temperatures of early spring.
2. In contrast, these "New Thrips" may breed all year, with significant damage seen during the summer.
3. Early detection will prevent full-scale infestation. Take a clipboard with a sheet of white copy paper and hold it under your rose bush and shake a few stems. You will see some small insects on the paper. With a 10x lens you will be able to easily identify the thrips larvae.
4. Remove the infected plant parts and discard completely. Detection and rapid pruning and removal are the two best defenses against thrips.
5. Aggressively attack the remaining insects: In the ground with a granular systemic insecticide. Then through weekly spraying with an insecticide -- using the least harmful to the most harmful -- Conserve then Avid; followed by Merit and Orthene.
6. The entire process from identification of the problem to acceptable control should take about 4-6 weeks. About the same amount of time it will take your roses to send out some new stems and blooms.
7. Put down your guns. Over use of pesticides will create more problems than they will solve. Conserve is a great product. The label reads: "use no more than 10 times per season". Can you use it 10 weeks in a row during the heaviest pressure from Thrips and Mites? Yes, but using it 2-3 weeks in a row, followed by Avid 2-3 times and finally Merit or Orthene once (if needed) would probably be a better scenario.

My theory is that these "new thrips" blew in last year on the winds of Hurricane Charley, Jean or Francis ... from the vegetable, cane or citrus fields along their paths. Hopefully when the farmers start planting this year's crop of peppers, tomatoes or what ever, these thrips will move away from our roses and return to their favorite food. Only time will tell.

The above article includes revisions approved by the Author for use in this Wind Chimes. The original article appeared in the September 2005 issue of The Rose Petal, Newsletter of the Greater Palm Beach Rose Society, Shelia Barrell, Editor.