



## Bud and Bloom Eaters: Flower Thrips



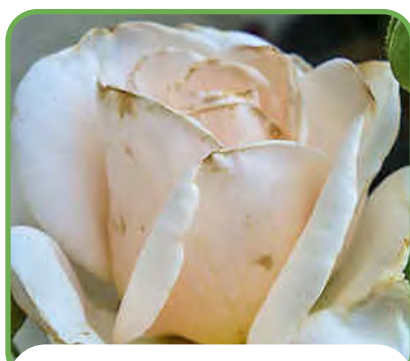
*Flower thrips are tiny, but can be seen on this yellow bloom.*

Flower thrips are a rose lover's worst nightmare because they target our favorite part of the plant, the blooms. They are tiny, dark or yellow colored insects that you may see either crawling across the petals of your light colored roses or in the center of the bud or bloom.



*Thrips will leave brown edging on flower petals.*

These are rasping insects. They feed on the juices in your rose blooms and leave signs of damage that destroys a perfect flower. Brown or silvery streaking on the petals, rasped brown petal edges and dark speckles of excrement are the beginning signs of thrips infestation.



*The soggy looking brown spots on this pastel bloom are caused by thrips rasping the petals.*

Heavy infestation can cause buds that bend over and blossom balling, a condition in which the outer petals of a budding flower are so softened by thrips feeding that they dry out and create an hard outer shell that confines the inner petals. You won't find flower thrips eating your roses' leaves like chilli thrips do; rose petals are their favorite food.

Female thrips lay their eggs in the top layer of plant tissue. Depending on the

temperature, these eggs hatch within 2 to 14 days. They spend their first and second instars (growing phases) on the plant and then drop or move down to the ground where they pupate in the soil and plant litter.

Adults emerge from the ground and move up the plant to feed on buds and blooms and to lay eggs. The whole cycle can take two to three weeks, but similar to many other rose insect pests, higher air temperatures speed up development and increases thrips quantities.

Both the nymphs and the adults rasp petal tissue. Adult thrips do have tiny wings, but they mostly serve as a way of parachuting in the wind from one plant to another. They demonstrate positive thigmotactic behavior. They need to be in constant contact with plant surfaces which is why they hide deep within the buds and blossoms, hard for the gardener to see or treat.

Because thrips can drift on the wind, allowing more space between rose plants makes it harder for them to migrate from one plant to another. It is important to keep the beds clean, free of old plant material and debris. Remove weeds from in and around the garden bed; their plant growth gives thrips another place to hide.

Clip off infected blooms and buds and throw them in the trash, not the compost pile. When doing this, remember that these insects can float on air, so be sure to bag cut plant material



*Thrips damage can cause bloom balling.*



*Thrips have chomped the tops of these buds.*

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*Thrips scar and damage rose petals.*

quickly and try not to transport the infected material throughout the garden.

Control of flower thrips is a challenge because they are small and protected by plant tissue. Sprays of water may dislodge them and force them to the ground, but generally rosarians don't like to use forceful water sprays on delicate blooms.

Organic options such as insecticidal soap, neem oil, or horticultural oil must make direct contact with the adult insect to be effective. Unfortunately, adult thrips generally stay within plant tissue and buds, so such contact is difficult. Improper timing and inadequate coverage also decrease the impact of these contact sprays.

Using more powerful, toxic insecticides, such as organophosphates (malathion), carbamates (carbaryl) or pyrethroids (permethrin) will kill beneficial insects and increase spider mite outbreaks due to the destruction of their insect predators. The runoff from these products can contaminate municipal water sources. Systemic insecticides are not effective because they do not move through the plant to flower parts where the adult thrips feed.

Translaminar products are more effective. These sprays penetrate plant tissues and stay there, leaving residual quantities that may kill the insects.

Spinosad is a product that is not systemic, but is translaminar. Conserve, which contains a high percentage of Spinosad, is the product most used by greenhouse growers for thrips. It works quickly, killing the pests within one to three days after ingestion or contact and leaving

up to two weeks of residual activity. Apply the product before the thrips enter the flower buds.

A major problem in eliminating thrips is their ability to form resistance to spray products quickly. It has been reported that flower thrips are now resistant to a number of chemical classes including organophosphate, carbamate, pyrethroid and macrocyclic lactone. The reason for this is their breeding system (haplo-diploid); the genes that are part of this system accelerate the rate of insecticide resistance.

Flower thrips populations in the United States have also developed resistance to Spinosad. In 2008, Dow AgroSciences, a company that specializes in agricultural chemicals, voluntarily suspended the sale of all Spinosad insecticides in two counties in Florida because of increased resistance to it in flower thrips.

Because of this, if a gardener is going to use spray products of any kind to eliminate flower thrips, it is best to rotate between products that have different modes of action. The most environmentally friendly way of doing this is to rotate Spinosad, a translaminar product, with less effective and less toxic contact products such as insecticidal soap, neem oil or horticultural oils.

Integrated pest management (IPM) advises deciding on a tolerance level for thrips infestation as part of the gardener's approach. If the infestation is identified as thrips, one way to measure this is to post sticky traps or white, yellow or blue (thrips' favorite colors) plastic cups covered on the outside with a sticky substance throughout the garden. The quantity of thrips that are trapped by these devices will allow monitoring of thrips levels and help the gardener decide when insecticides are necessary.



*This blue cup is a monitoring device. It attracts thrips and traps them with sticky residue.*

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Rose lovers who are also garden lovers may be able to tolerate some thrips damage. The most garden friendly approach is to clean up debris on the ground and cut off any infected blooms or buds.

Pay particular attention to light-colored roses because thrips seem to prefer them. Deal with thrips as soon as they appear, before infestation increases. Unlike chilli thrips, flower thrips won't kill or disfigure the plant.




*This bonnet made of Reemay protects the apples. It could be used to protect prize blooms from insects.*

Rose exhibitors cannot tolerate any thrips damage to their rose blooms. They each have their own approach to preventing thrips damage, and most of these approaches involve spraying. This is understandable because a damaged rose bloom will not win at a rose show.

In addition to using sprays, they may try to cover their buds and blooms with a row cover or bloom bonnets. A material such as Reemay, a non-woven polyester material, allows light


transmission and lets rain or overhead irrigation reach the plants.

Covering or protecting blooms with something that keeps the thrips away from them may take some effort and seem like over-doing pest prevention, but for perfect blooms that are not marred by thrips damage, it may be worth it.

 Carolyn Elgar, Master Rosarian. Reprinted from the 04/2021 Orange County Rose Gazette.

*Random Thoughts from a Rose Addict, continued from page 13*

9. Fire ants will build a condominium complex in the middle of your rose bed.
10. They need to make those little four-wheeled garden scooters with a seat belt. Falling off of them is never graceful, as it most always involves doing a backward somersault down a hill straight into a pile of rose clippings with every neighbor applauding your performance.
11. Putting a bird feeder in your rose bed means you'll have rose blooms covered with bird poo.
12. Blackspot is much easier to prevent than it is to remove.
13. The rose you plant will never be the color of the picture in the catalog.
14. If a catalog says that the rose will be 4' to 6' tall, it will really be 8' to 10' tall in your garden and you planted it in the wrong place.
15. Bunnies and deer may be cute but they devour roses, along with voles, grasshoppers and caterpillars. They all must go.
16. Roses don't care how much you spend on fertilizer. Just give them the basics with enough water and they will be happy.
17. If you take a blood thinner, be sure to put a handful of band-aids in your back pocket when you prune. An ice pack would come in handy as well (See #10).
18. Your day to spray will come up on the windiest and/or rainiest day of the week.
19. Make sure your tetanus shot is up to date. You need a booster every 10 years.
20. All of the aggravation and blood, sweat and tears are worth it when your roses are in full bloom and you can sit back and think to yourself, "Now, this is a real garden."

 Kim Austin, ARS Consulting Rosarian, reprinted from the 04/2021 Greenville RoseBud, Greater Greenville RS.