

ORCHID AILMENTS

Thrips By Susan Jones

Orchid Buds and New Growths are Especially Susceptible to These Sucking Insects

MANY SPECIES OF THRIPS FEED on orchids; some of the most common include western flower thrips (*Frankliniella occidentalis*), Cuban laurel thrips (*Gynaikothrips ficorum*), greenhouse thrips (*Heliethrips haemorrhoidalis*) and flower thrips (*Frankliniella bispinosa*).

Thrips are a common problem on vandaceous plants, dendrobiums and to a lesser extent, cattleyas and phalaenopsis. Because they are quite small (about 1/16 to 3/8 inch [1 to 5 mm] long), they are difficult to see with the naked eye. Much more easily detected is the damage to plants, deformed foliage and injured floral tissues caused by their feeding. They most often attack buds and new growths with their rasping mouthparts, sucking the plant sap.

SYMPTOMS Much like aphids, thrips feed in buds and flowers by using their mouthparts to pierce the surface of the plant tissues and suck up juices from leaves, stems and flowers. Blooms may become prematurely brown, and their petals spotted, streaked, silvery or discolored. Damage to leaves appears as chlorotic spots, wilting and eventually dropping. Plant growth can be stunted, and a severe thrips infestation will kill an orchid. If you suspect that thrips are present, gently blow into an open flower and watch for the insects crawling around inside the blossom.

Because of their method of feeding and ability to travel from plant to plant, thrips, like aphids, may introduce and spread virus through an orchid collection.

LIFE CYCLE The majority of the pest thrips belong to the family Thripidae. The adults of most species are brown or black. The winged adults (males and females) are found mainly on flowers and developing growths. Females deposit their eggs beneath the surface of the plant tissue. Often the only visible evidence of this is the callus tissue formed by the orchid in response to the wound. The nymphal (immature) stages are creamy yellow to pale orange and resemble adults without any wings. The nymphs feed on the tender young plant growths, then drop to the medium to pupate. The pupae are a darker orange color than the nymphs. As they are generally below the surface of the medium, they are unlikely to be spotted and more difficult to control with pesticides. When they emerge as winged adults, they fly back up to the plant to feed, lay eggs and begin the cycle once again.

Each female is capable of producing 25 to 50 eggs at a time, and many species reproduce at a rate of three to five generations per year. Their reproduction rate is more rapid in warmer temperatures, making thrips a more difficult pest to control in southern climates.

PREVENTION Thrips are among the more difficult insect pests to prevent and control, but some measures that help include covering all vents and doorways with insect-proof netting, segregation of infested plants and disposal of all affected loose plant material, and overall good general sanitation — removal of all weeds and plant debris from the growing area.

Thrips can be monitored using blue or yellow sticky traps, which should be checked weekly. Thrips will appear as small dark specks on the traps. This will allow the application of pesticides while populations are small, so as to minimize chances of damage and infestation.

CONTROLS The nature of the thrips' life cycle places their eggs and pupal stages fairly well out of the reach of most pesticides. Therefore, multiple applications of the chosen control method or pesticide at weekly intervals are needed to control successive generations of these pests.

As with many unwanted insects, monthly rotation of control measures is also recommended, especially when using chemical pesticides. Alternating between at least two different chemicals helps to avoid raising resistance to control measures in the insect pest.

Insecticides such as insecticidal soap, malathion and acephate (Orthene) are all recommended for use on thrips, and are listed as safe for use on orchids as well.

If your growing area is enclosed and is not part of your living space, such as a greenhouse, biological control with a predatory mite is an option. The female *Amblyseius cucumeris* deposits eggs in thrips. When the young hatch, they parasitize their hosts, killing them.

The use of insecticides is not compatible with employing predatory mites for control, as the insecticides are harmful to the mites as well as the thrips. As always, adhere strictly to the manufacturer's instructions for safe application and use of chemical pesticides.

As with any spray-on pest control measure, any orchid plants infested with thrips should be managed to allow easy and thorough pesticide application. Arrange the plants in the growing area so that they have adequate space for air circulation and ease of spraying, and be sure to cover all plant surfaces, such as those between and on the undersides of leaves, to maximize the effectiveness of the treatment.

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