

Managing Chilli Thrips in Florida Blueberry Fields

One of the most problematic insect pests on blueberries in Florida is chilli thrips, (*Scirtothrips dorsalis*). It was first recorded in blueberries in Florida in 2008. Chilli thrips typically feed on the new vegetative growth of blueberry after summer pruning, although in recent years they have been observed in mid to late May on new foliar flushes.

Adult chilli thrips are very small (< 1/16 inch in length) (Figure 1) with pale yellow bodies, dark fringed wings, and dark partial stripes on the abdomen. Their life cycle (egg to adult) is approximately 18–20 days. It has four life stages: egg, larva, pupa and adult. An adult female can lay as many as 60 eggs in its lifetime, with eggs hatching in 5–8 days. There are two actively feeding larval stages that last approximately 8–10 days, and two non-feeding pupal stages that are completed in 2–4 days, on the underside of leaves, in leaf litter, in leaf curls, or in the soil. Adults can live for 20–25 days.



Figure 1. Adult female chilli thrips
Credit: Babu Panthi, UF/IFAS

Chilli thrips initially form concentrated populations ("hot spots") in fields, and when the amount of undamaged foliage diminishes, they move to adjacent plants within that field. They are not strong fliers and typically disperse over short distances. Heavy infestations of chilli thrips may occur during prolonged hot and dry periods (June through September).

Chilli thrips continue to feed and reproduce all summer primarily on young blueberry foliage. Adults and larvae use mouthparts to pierce through epidermal cells and remove the cell contents, leading to leaf and stem necrosis and reduced photosynthesis. Initial injury symptoms appear as bronzing of the leaves along veins and petioles, followed by leaves starting to curl

and distort (Figure 2). Heavy infestations can cause leaf defoliation with extensive curling of leaves.

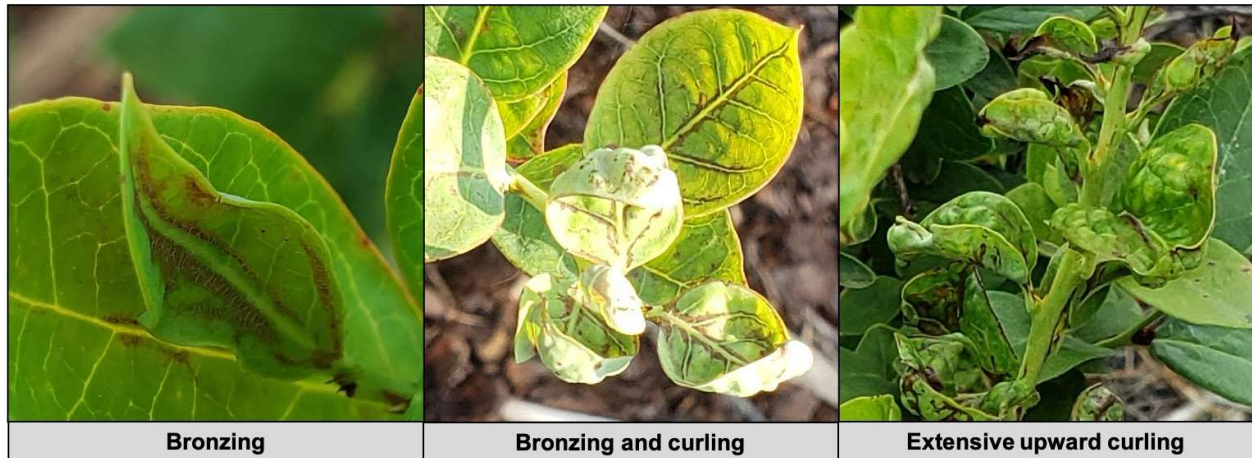


Figure 2. Feeding injury caused by chilli thrips feeding on blueberry leaves.

Credit: Babu Panthi, UF/IFAS

Early scouting and detection are important for effective chilli thrips management. Scouting for adults can be done by observing young leaves with a 10X hand lens, sharply tapping young foliage onto a white sheet of paper, or using white or yellow sticky cards. Chilli thrips tend to have an irregular distribution within a field, so you will need to collect sufficient samples to accurately estimate any populations in the field. The appearance of bronzing symptoms may be the first indication of the chilli thrips presence in blueberry fields, although by that point populations may already be at high levels.

An integrated management plan to control chilli thrips includes cultural, biological, and chemical controls. Cultural controls include eliminating host plants (including weeds) in or near production fields that can harbor chilli thrips. Natural predators such as *Orius insidiosus* (the minute pirate bug, which feeds on all life stages of thrips), *Amblyseius swirskii* (predatory mites), and *Geocoris* spp. (big-eyed bugs) have shown some effectiveness in managing chilli thrips populations.

Chemical insecticides are the primary means to manage chilli thrips populations in blueberry. Reduced-risk insecticides registered for controlling chilli thrips in blueberry are tolfenpyrad (Apta®), cyantraniliprole (Exirel®), novaluron (Rimon®), acetamiprid (Assail®), and flupyradifurone (Sivanto®). Spinosad (Entrust®) can be used to manage this pest in organic blueberry production. In a recent field trial, tolfenpyrad, acetamiprid, and flupyradifurone + Induce were the most effective of the insecticides evaluated. Growers have also reported some effectiveness with novaluron, which is an insect-growth regulator that affects egg development. See 2022 Florida Blueberry Integrated Pest Management Guide (<https://edis.ifas.ufl.edu/publication/HS380>) for details on suggested chemical controls. Be sure to follow all insecticide label instructions, including rotating appropriate products with different modes of action to help minimize the development of insecticide resistance. For more details

on chilli thrips in blueberries see Chilli Thrips on Blueberries in Florida (<https://edis.ifas.ufl.edu/publication/IN1298>).

Dr. Oscar Liburd, Professor, Fruit and Vegetable Entomology, UF/IFAS
Doug Phillips, Blueberry Extension Coordinator, UF/IFAS