



Greenhouse Pest Message Sept 8, 2022

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Whiteflies

Managing whiteflies on poinsettia has been more challenging since the sweetpotato whitefly, *Bemisia tabaci*, (B biotype) first appeared in Florida in 1986 and began to appear in greenhouses soon after words. (Biotypes are groups of organisms sharing the same genetic makeup).

A more resistant biotype, known as the Q biotype, was found in Arizona in 2004 and in Florida in 2005. This Q biotype was reported to be primarily a pest in greenhouses. However, since 2016, it was been reported in nurseries, field locations and outdoor home residences in Palm Beach and Miami Dade counties in Florida.

Since 2021, researchers have considered *Bemisia* to be 40 or more discrete but indistinguishable “cryptic” species. The B biotype is now known as MEAN1, and Q biotype is now known as MED.

In past years, I have primarily seen sweetpotato whiteflies on poinsettias, hibiscus, and gardenia. Growers have mentioned observing sweetpotato whiteflies on herbaceous perennials such as asters, gaillardia, eupatorium, helianthus, lavender, and salvia. *Bemisia* is reported to have a wide host range of more than 1000 plant species.

You may also encounter the greenhouse whitefly, and the banded winged whitefly in greenhouses in addition to sweetpotato whitefly. None of these whitefly species survive outdoors during New England winters. *Bemisia* is also not known to be a problem on tobacco fields in CT. (Whiteflies tend to love solanaceous crops).

You cannot tell which biotype of sweetpotato whitefly you have by observation; genetic testing is needed. But you can identify which whitefly species is present. This is especially helpful if you are releasing host specific parasitic wasps. However, it is also helpful when selecting chemical controls to know if you have the more highly resistant sweetpotato whitefly as contrasted to the greenhouse whitefly.

Sweetpotato whiteflies

Sweetpotato whitefly adults are yellow, and smaller than the greenhouse whitefly adults. Sweetpotato whiteflies may be attracted to poinsettia cultivars with lighter, more “yellowish” foliage.

Their wings are held close to their body at a 45-degree angle with a tent-like

shape. Their wings are held roof-like over their bodies.

It is easiest to identify whitefly species by looking at the pupal or resting stage that is found on the lowermost leaves. For sweetpotato whitefly, the pupal stage is bright yellow without a fringe of waxy filaments around its edge. The red eyes indicate adults are ready to emerge.



Figure 1 & 2: Sweetpotato whitefly adult, and yellow red eyed pupae. Photos by C. Caballero

Greenhouse Whiteflies

Adult greenhouse whitefly holds their wings flat, parallel to the top of the body. Newly laid eggs are white and eventually turn gray. Young nymphs (crawlers) are white, have legs and antennae, and move short distances before locating suitable places to begin feeding. More mature nymphs (third and fourth instars) are typically found on the lowermost leaves. Pupae do not feed and have distinct red eyes.



Figure 3 & 4: Greenhouse whitefly adult (on left) and greenhouse whitefly pupae (on right). Photos by L. Pundt

Greenhouse whitefly pupae may have long waxy filaments encircling their outer edge.



Figure 5: This side view shows elevated sides are very straight giving the pupa an “cake-like” appearance when viewed from this angle. Photo by L. Pundt

Bandedwinged Whitefly

Bandedwinged whitefly is not an important whitefly species in CT greenhouses. However, adults may be occasionally found on yellow sticky cards in September. Outdoors, bandedwinged whitefly may be found on weeds such as ragweed and velvetleaf.

Their front wings are marked with two zigzag, smoky gray bands. When the wings are folded over the body, these lines appear to be continuous from wing to wing. Hind wings lack these bands.



Figure 6: Adult bandedwinged whitefly on sticky card. Photo by L. Pundt

I have also been asked whether **cabbage whiteflies**, which tend to occur in the fall, can infect poinsettias. Cabbage whitefly has a wide host range, but its preferred hosts are cabbage, Brussels sprouts, cauliflower, broccoli, and edible kale. Cabbage whitefly adults are about 1/16 of an inch long with two pale grey distinctive blotches on each wing.



Figure 8 & 9: Cabbage whitefly adults (on left) and pupae (on right) on underside of edible kale leaves. Photos by L. Pundt

Some growers have been releasing *Encarsia formosa* against cabbage whiteflies on edible kale in greenhouses.

<https://www.oregon.gov/ODA/shared/Documents/Publications/IPPM/CabbageWhiteflyAlert.pdf>

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