GROWERTALKS

Columns

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Broad Mites: Don’t Let Their Size Fool You!

Rick Yates

Spring 2016 marked the continuation of an upswing in trouble calls from growers experiencing broad mite (*Polyphagotarsonemus latus*) outbreaks. Gerbera daisy and New Guinea impatiens bore the brunt of the damage; we also saw broad mites on begonia (Nonstop), dahlia, ivy, impatiens (double, SunPatiens), fuchsia, peppers, salvia (*farinacea*), torenia and thunbergia.

Routine scouting usually doesn’t detect broad mites. They often avoid detection because of their microscopic size and their ability to stay out of sight. Broad mites are smaller than spider mites and are found most often on tender young leaves in the growing tips. They also feed on flower buds and have been found tucked in between the petals of gerbera daisy blooms. The adults appear as various shades of amber with larvae and nymphs appearing almost colorless.

Pictured: Pepper with broad mite feeding damage.

Broad mite eggs have a unique geometric pattern on them that serves as a very useful detection aid. The eggs aren’t much smaller than the adults and the presence of the eggs remains apparent for some time even after the eggs hatch, making it easier to spot them.

While broad mites themselves may go undetected, the damage they cause certainly does not. Broad mites inject a toxin as they feed, which causes dramatic symptoms to appear. Damage can vary widely from one type of plant to another and that keeps diagnosticians on their toes. Ivy geraniums with broad mites can be easily missed, as the primary symptom can be just very slow growth and a lack of flowering.

Most plants show more obvious symptoms. Typically, the young leaves in the growing tip will start to lose their normal shape. Leaves may become thickened, causing them to become hard and brittle. The leaves and stems in the growing tip darken over time.

Twisting, cupping and curling also can occur, making it easy to confuse broad mite feeding damage with other problems, such as herbicide damage, plant viruses, high soluble salts and physiological disorders. Broad mite flower damage can even be confused with thrips damage on gerbera daisies. This makes it imperative to positively identify the source of the problem. The GGSPro team uses a microscope for identification, but a good quality hand lens may be sufficient. If you don't have access to this type of equipment, submit samples to a lab for assistance.

Damaged leaves won't recover even after the broad mites are controlled, but if detected early enough, the plants can resume normal growth and generally become saleable. Moderate damage might be overcome by pinching out affected growing tips, although that approach adds to crop time.

Advanced infestations usually result in crop loss. Broad mites require live plant tissue to survive, making the removal of all plant material, including weeds between crops, an important step in assuring that they don't carry over from season to season. Broad mites spread through air currents, when the leaves of adjacent plants overlap, and by hitching a ride by clinging to a whitefly.

Biocontrol

There's conflicting information about the effectiveness of using predator mites to control broad mites, so I reached out to Ronald Valentin, lead entomologist and biocontrol expert at Bioline Agrosciences, Inc. Ronald stressed that curative treatments aren't going to be successful, although all of the Amblyseius mites will feed on broad mites. Best success will be achieved when high numbers of predator mites are present. An example would be the hundreds of predator mites released over four to six weeks when utilizing mini-sachets of A. cucumeris to control thrips on hanging baskets.

During warm summertime conditions, *A. swirskii* can be expected to outperform *A. cucumeris. A. andersoni* is the best choice in cooler conditions since it's active down to 43F (6C). Last, but not least, *A. californicus* shines under the lower relative humidity conditions that hinder the other *Amblyseius* mites.

Miticides

Not all miticides are effective against broad mites. Avid, Judo and Pylon are examples of translaminar systemic miticides that have good activity against broad mites. The translaminar activity is very helpful in light of the reclusive nature of these tiny pests. Several crops show sensitivity to Judo, so please confirm plant safety with your supplier before making an application.

Akari, Sanmite and horticultural oils also control broad mites; however, all are contact products requiring excellent coverage, which can be difficult to achieve with some crops. Drench applications of Kontos also appear to be effective in controlling broad mites. Control with Kontos drenches can take up to three weeks; geraniums, dracaena and a handful of other crops cannot be treated due to crop damage.

Always read and follow the entire pesticide label. Pesticides mentioned may not be registered in all states and may be a RUP (Restricted Use Pesticide) in certain states. Products other than those listed here may also be safe and effective. **GT**

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