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## The Pest From Abroad: Watch for Broad Mite in Spring Crops

*Broad mite was again a common pest of greenhouse annuals in 2016. Following are some reminders about how to keep this from being a damaging problem.*

Late winter and early spring are good times to be taking preventive steps against pests before they become major problems, which is usually around the time greenhouses are busiest in spring. Broad mite is one of those that seems to be returning with regularity, but also one that is fairly easy to control early in the crop.

A tropical/subtropical species, broad mite doesn't generally survive outdoors in northern climes, so in many greenhouses it clearly being introduced with plant material. Often it is associated with one or a few cultivars, isolated to limited locations.



Broad mite damage may appear initially subtle, like the bronzing and slight distortion here on gerbera foliage

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Broad mite can damage flowers as well, as with the gerbera here, but may be mistaken for thrips injury

The mites are extraordinarily small, nearly impossible to see, with damage far greater than one would expect: bronzed, stunted or distorted foliage, fine flecking on petals and sometimes flowers that are either very stunted, distorted or fail to open at all. Boron deficiency and foliar nematodes on some crops, like African violet, often look much like broad mite damage so be sure you have an accurate diagnoses before pursuing a remedy. You can possibly see the tiny, pale mites with high magnification - try using a 15 - 20x lens with excellent lighting. Foliage near the growing point or collected during very humid conditions will be more likely to have mites present. A diagnostic lab can usually quickly help with a determination if needed too. Since the mites are sometimes hard to find, we look for the hatched eggs, which leave a flimsy flat bit of residue that retains the distinctive dots seen on the surface prior to hatching. Their presence is positive proof that broad mite could be responsible for the symptoms. Broad mites feed on many annuals - New Guineas are among the more commonly affected hosts - including some vegetables, and even woody ornamentals too.

The good news is that broad mite is easily controlled, though you'll need to be somewhat selective as not all miticides work. Effective products labeled for greenhouse ornamentals include Pylon, Judo (soon to be Savate), Sanmite, Avid (or generic abamectin), and Akari. One application may suffice if coverage is very thorough, otherwise two around 7 to 10 days apart may be needed or if the population is high. Some growers seeing problems every year might treat rooted cuttings prior to planting, especially if destined for baskets overhead. Note that some plants are sensitive to Pylon (dianthus, kalanchoe, poinsettia, rose, salvia and zinnia), Judo/Savate (geranium, peperomia, dracaena, New Guineas, some roses, and more - see label for full list), and Avid (ferns, Shasta daisy). Magus and Kontos are the newest



Downward cupping and rolling are early symptoms of broad mite on New Guinea impatiens. (Photo Nora Catlin)

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labeled products; both are foliar sprays and Kontos can also be used as a drench. We have had good results with both and notably Kontos as a drench, but two applications are suggested for either if applying as sprays. Kontos should not be used on pelargonium, orchids, hoya, dracaena, cordyline, schefflera, neathe bella palm, and ferns; only one application is suggested on some other plants (see label). Be careful when using Kontos on baskets, as we've seen zonal geraniums on benches beneath injured by the runoff from treated pots above. Magus should not be applied to roses. Expect the pyrethroid insecticides Talstar S Select (or generic bifenthrin) and Scimitar GC to provide some suppression. SuffOil-X is also generally labeled for 'mites' on ornamentals and would be an organic-compatible option; we found with good coverage it worked quite well though growers should expect no residual activity. Two applications would be necessary, but test any oil on a small scale first particularly when using multiple applications, be sure plants are well-watered, and consider possible oil incompatibilities with some products. We also found placing cuttings under mist on a propagation bench seemed to control the mites very well too.

Biological control is often used in longer-term crops. The predatory mite *Neoseiulus cucumeris* will feed on broad mite as well as immature thrips, but prefers humidity around 65%+. Other predatory mites, *Amblyseius swirskii* and *Neoseiulus (Amblyseius) californicus*, have been used successfully to control broad mite. These three mites will also feed on pollen so may benefit from having flowering plants present. Predator mites should be released preventively. Check with suppliers or your Extension specialist on release rates and other guidelines.



Symptoms of broad mite damage on jasmine. The distortion and stunting could easily be mistaken for other causes and the mites may not be present on damaged foliage.