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## Mealybugs, Root Aphids, Spotted Lanternfly: Just a Normal Week

Several years ago I read this in an article by the estimable Dr. Casey Sclar, formerly Plant Health Care Leader at Longwood Gardens and now with APGA, in the April 2008 *Greenhouse Product News* (see references), reporting on some of his research (my highlights):

“We found that female [citrus] mealybugs lived on watered pot sections **without a host plant** for an average of 10 to 19 days, with crawlers still being produced up to 45 days afterward. They live on containers, walls and benches. The day we saw hatched crawlers on stainless steel flashing, we gained a new respect for them. As part of this study, we witnessed no difference in mealybug egg mass survival on recycled fiber pots as opposed to plastic or clay containers.”

That got me focusing on the importance of sanitation - and not just the plants - where mealybugs are concerned. Based upon this we were able to solve a mealybug problem completely in one operation by consistently power-washing the benches between crops and placing new crops only on clean benches.

This past week I was called to a case of mealybugs becoming increasingly noticeable and unwelcome. The greenhouse grows valuable plants, some of which mature over a long period (many months to years)- a favorable situation for mealybugs and other pests. New material is introduced periodically, including mature specimens adding to the risk of reintroduction. With spring on the way frustration was growing along with the crop.

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We spent some time scouting the plants. Staff were overlooking the smallest immature mealybugs (they can be hard to see) on the oldest plants as part of the problem and had missed adult mealybugs that migrated to the newest plants placed nearby on the benches. This caused a change in thinking, so new plants will be isolated from older ones (some distance from infested plants) and infested plants will be tagged for treatment, including others nearby. I suggested cleaning the benches thoroughly and other management options, including possible biocontrols when environmental conditions were favorable and the pest population reduced.

Hearing reports of difficulty controlling mealybugs, I and entomologist colleagues have done more than a few trials comparing efficacy of insecticides. I think most would agree Madeira mealybug (*Phenacoccus madeirensis*) is near the top of the list of problem species. Thanks to support from the IR-4 Project (<https://www.ir4project.org>), in our most recent trial we compared several foliar treatments on 'Wizard Red' coleus over a one-month period. The products and application rates (per 100 gallons of water) are listed in the legend. Each black dot represents when a spray application was made, applied to wet. We tallied the numbers of Madeira mealybugs present on four randomly selected middle-aged leaves. The mealybugs were all young nymphs at the start of the trial, an important detail to consider as some of the treatments (AzaGuard, Talus) act mainly against immature stages. The mealybug population was high at the start of the trial. Though the levels dropped across all including untreated plants, there was a significant reduction due to all treatments (statistical analysis not



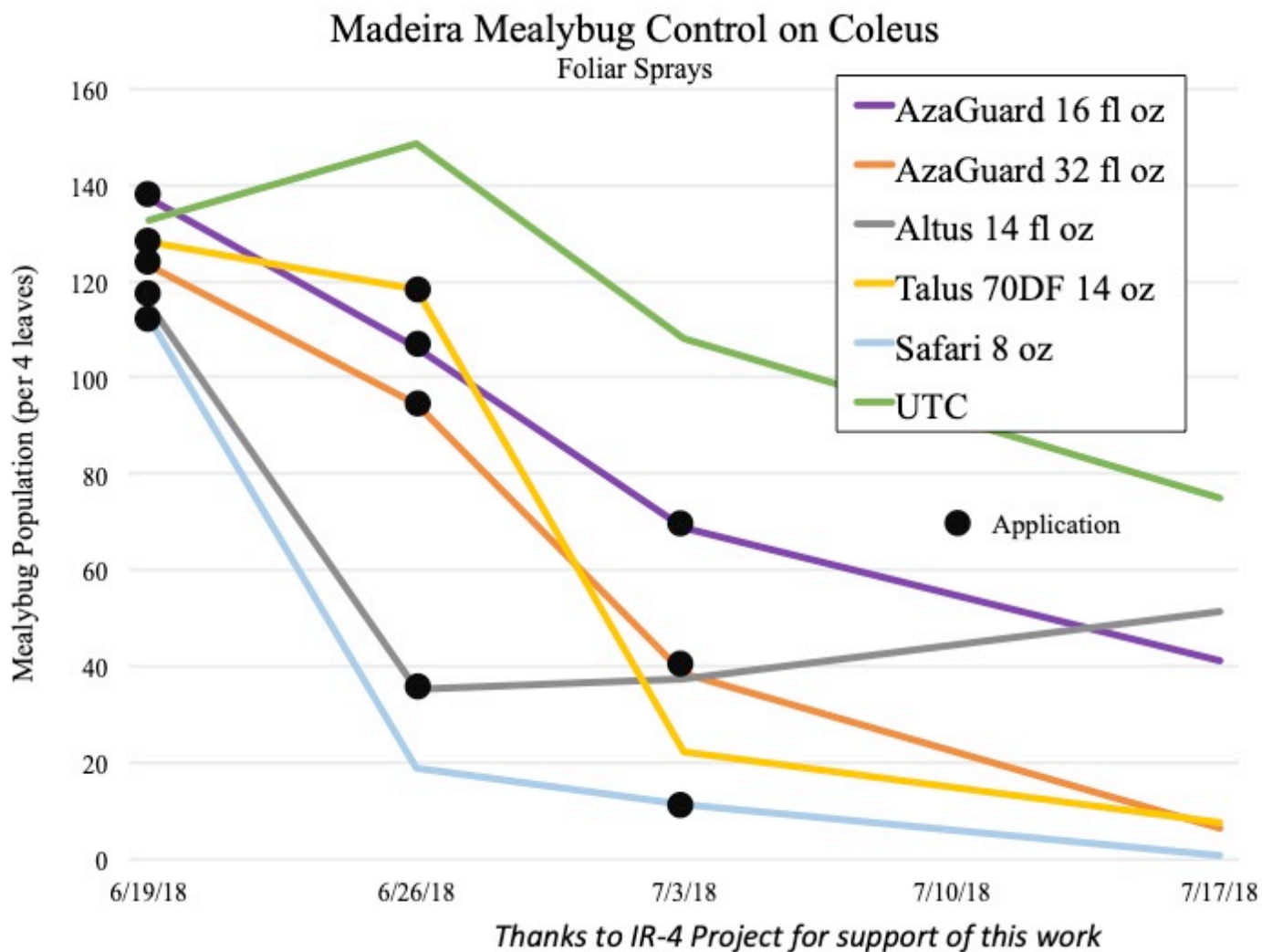
Madeira mealybugs on hibiscus



White cottony material is a sign of some root aphids. Root mealybugs may leave somewhat similar evidence



Madeira mealybug is known for its prolific egg masses. (Photo K. Jackson)



shown). The AzaGuard was most effective at the high tested rate and it appears the two applications of Altus were initially effective, but a third appears to have been warranted. We noticed most surviving mealybugs on plants treated with AzaGuard were on the undersides of lowest leaves where coverage was likely poorest, so efforts to improve coverage would likely enhance control. Our report will be posted at the IR-4 website later this year.

An issue with root aphids also came up during the visit to the greenhouse. There were no above-ground symptoms, but white cottony masses in the roots were objectionable. Unlike other root aphid cases, this species is confined to only one plant species. Knowing this, they can focus management efforts on this crop and not be concerned for spread beyond. A systemic drench was suggested for control, after inspecting roots of randomly selected plants to confirm extent and severity.

I received news this week that a (dead) spotted lanternfly (SLF) adult was found in Boston apparently “unintentionally transported this past December in a shipment of poinsettia plants originating from Pennsylvania” (see MDAR Press Release). Not the first time this invasive species was detected or suspected moving in horticulture (or other commodities) - we had a few cases on Long Island last fall - but it highlights the need for

for vigilance. For anyone wondering what the fuss is all about I suggest reading Nursery Management magazine's January 2019 cover story (<https://www.nurserymag.com/article/spotted-lanternfly-invasion/>) and viewing any of the alarming YouTube videos on the topic. SLF, established in southeastern PA, also has been found in western New Jersey, northern Delaware, and Frederick County, Virginia. Several states (like PA and NY, see references) also have web pages with more information on SLF and how to report suspect findings.



This adult mealybug migrated over from other infested plants nearby

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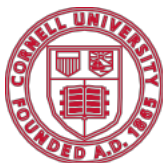
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