UC RIVERSIDE | DEPARTMENT OF ENTOMOLOGY

ENTM250 Series Webinar

Speaker:

Jaimie Kenney
Ph.D. Candidate
Department of Entomology
University of California, Riverside

Date: Monday, Oct. 11, 2021
Time: 4:00 pm - 4:50 pm
Zoom: 948 0131 1028
Passcode: 347039

Title:
"Monitoring potato psyllid visitation and long-term persistence of *Candidatus* Liberibacter solanacearum infections in native, perennial nightshades in Riverside County natural reserves"

Abstract:
Potato psyllids (*Bactericera cockerelli*) commonly use native, perennial bluewitch nightshade (*Solanum umbelliferum*) as a reproductive host in southern California, and screening of five bluewitch nightshade populations growing on natural reserves in Riverside County revealed that many of these plants are infected with the potato psyllid-transmitted pathogen *Candidatus* Liberibacter solanacearum (CLso). However, potato psyllids and CLso found associated with bluewitch nightshade during this initial screening were genetically distinct from those previously reported from crops in the same region. Therefore, we hypothesized that movement of psyllids and CLso across the agroecological interface may be rare in Riverside County, but that perennial bluewitch nightshade, once infected, may serve as a long-term reservoir for CLso in the environment. To test these hypotheses we used yellow sticky cards to monitor potato psyllid visitation of bluewitch nightshade at Motte Rimrock Reserve over the course of several seasons, sequencing DNA from one individual psyllid per week to screen for the crop-associated Western haplotype. We also used PCR to retest the same bluewitch nightshade plants from our initial screening one year later, in order to gain insight into whether CLso infections persist in these plants through the summer dormancy period when potato psyllids are not present. Our results suggest that the population structure of potato psyllids and patterns of CLso transmission in California are likely more complex than previously thought, and merit further investigation both in agricultural and natural plant communities.