Grape II

Moderator: Katherine East, Michigan Statee University Extension

2:00 pm	Wasp composition and phenology in cold climate grapes • Christelle Guedot, University of Wisconsin - Madison
2:30 pm	Fungicide Resistance Management in Grapes: Powdery Mildew and Botrytis • Tim Miles, Michigan State University (Department of Plant, Soil and Microbiology)
3:00 pm	A Washington Perspective on Nematodes in Grapevines • Katherine East, Michigan State University Extension
3:30 pm	Cordon Renewal Strategies for Cold Injured Merlot Grapevines • Hemant Gohil, Rutgers University

Wasp composition and phenology in cold climate grapes

Christelle Guédot and Abby N. Lois

Department of Entomology, University of Wisconsin – Madison

Social wasps are increasingly problematic in grape production in the Midwest, causing damage and impacting harvest activities. In 2015, we assessed the phenology of social wasp populations in Southern Wisconsin vineyards and determined the species composition. The most common species found in Wisconsin grape vineyards were yellowjackets, paper wasps, and bald-faced hornets. Eight species of social wasps were caught in traps, with the most predominant species being the Eastern yellowjacket *Vespula maculifrons* (n=762), *V. vidua* (n=632), *V. flavopilosa* (n=362), and the German yellowjacket *V. germanica* (n=206). Our seasonal trapping suggests that different species of social wasps have different phenologies and understanding the phenology of pest populations is critical in timing management strategies to target specific life stages or peak populations. We used different attractants and determined that *V. vidua* responded best to heptyl butyrate while the other species were caught in traps baited with either wine or acetic acid and isobutanol in combination. Similarly, different species differ in their response to repellents and we tested how effective different repellents were at repelling the main wasp species in vineyards. Most repellent were effective at repelling wasps and based on effectiveness and longevity of the chemicals, we determined that methyl anthranilate was the most promising repellent for our next study. We then combined our results from the attractant study and the repellent study to design a push-pull strategy to manage social wasps in vineyards. Our results suggest that, when all species are combined, the repellent did not reduce the number of wasps in monitoring traps, however, the attractant and push-pull treatments reduced the number of wasps compared to the control.