

ABUNDANCE AND SEASONALITY OF GRAPE LEAFHOPPER EGG MORTALITY AND NATURAL ENEMIES IN WASHINGTON

Christian P. Storm, David G. James, Larry Wright and Tanya Price

Prosser Irrigated Agriculture Research & Extension Center, 24106 N Bunn Road,
Prosser, WA 99350 USA

Leafhoppers (Homoptera: Cicadellidae) are significant mid-late season pests of wine grapes, but have the potential to be controlled by parasitoid wasps in the genus *Anagrus* (Hymenoptera: Mymaridae) and other natural enemies. To study the abundance, distribution, and effect of these biocontrol agents in south central Washington, a survey was conducted during May-October 2001. Yellow sticky traps were placed in vineyards, abandoned grapes and alternate leafhopper/*Anagrus* host plants (blackberry, wild rose) to monitor weekly leafhopper and wasp populations. D-vac samples were taken three times during the summer to monitor predator populations in the canopy. Ten leaves were taken weekly from grape sites and *Anagrus* spp. reared from leafhopper eggs and identified; egg mortality was also determined. Five species of *Anagrus*, *A. erythroneurae*, *A. daanei*, *A. tretiakovae*, *A. avalae* and *A. atomus*, were identified. Late season parasitism at unsprayed sites ranged from 80-100% and between 10-20% in conventionally managed vineyards. *Anagrus* spp. populations peaked in early May and mid-August in native vegetation and slightly later in grapes. Egg mortality from an unidentified cause (disease?) ranged from 20-30% early season and from 50-80% late season. Natural enemies and an unidentified egg mortality can be important in suppressing leafhopper populations in Washington state wine grapes.