

Section VIII
Mites & Sap-sucking Insects

HOP AN INTEGRATED PEST MANAGEMENT PROGRAM FOR HOPS IED

THIR W.W. Cone, M.M. Conant, L.C. Wright, and J. Perez TEM

Irrigated Agriculture Research and Extension Center

Irrigated Agriculture Research and Extension Center

Washington State University

Prosser, Washington 99350

Prosser 509/786-9280 9350

e-mail: wcone@tricity.wsu.edu

e-mail: wcone@tricity.wsu.edu

The objective of this study was to produce a good crop of high quality hop cones by taking greatest advantage of natural enemies of the two major arthropod pests (aphids and mites) while minimizing the use of more expensive, toxic, synthetic or manufactured pest control products. Several management strategies not commonly used in commercial hop production were investigated as a means to that end. One strategy involved early season inventory of the western predatory mite (WPM), *Galendromus occidentalis* (Nesbitt), relative to its prey, the twospotted spider mite (TSSM), *Tetranychus urticae* Koch. In this case "early season" was late March and early April. A second strategy was to use a soil-injected systemic aphicide to manage numbers of the hop aphid, *Phorodon humuli* Schrank. Late season mite management was addressed with augmentive releases of commercially available WPM to supplement naturally occurring numbers of WPM. Numbers of TSSM increased in late July and early August but were controlled by WPM. Hop yields at harvest were better than the long-term average for the yard and were of excellent quality.