

Biological Control

Biological control

grape mealybug, *Pseudococcus maritimus* (Ehrhorn); pear, *Pyrus communis* L.

Ross H. Miller and John E. Dunley

Tree Fruit Research and Extension Center
1100 North Western Ave.
Wenatchee, WA 98801

The potential of two endemic biological control agents against grape mealybug (GMB) was examined using inclusion cages in which natural enemies were placed along with established populations of GMB. The inclusion cages excluded other predators, and the experimental blocks were untreated with insecticides. The potential of the green lacewing, *Chrysoperla rufilabris* (Burmeister), as a augmentative biocontrol agent against GMB was demonstrated in inclusion cages on GMB-infested pear branches in Wenatchee area pear orchards. Another very common predator, the European earwig (*Forficula auricularia* L.) also significantly reduced GMB populations cages when confined in inclusion cages. As might be expected GMB egg mass densities were also lowest in cages in which *C. rufilabris* or *F. auricularia* had been released. Mass releases of lacewing eggs on GMB-infested trees resulted in decreased GMB numbers on the release trees and on trees in the immediate proximity. There were few endemic predators or parasitoids present in GMB-infested pear blocks treated with chemicals or adjacent to pear or apple orchards under conventional spray programs. Distribution of GMB eggs, nymphs, and adults was not correlated with height on the tree. Similarly, fruit russetting attributed to GMB did not vary with position on the tree, but did correspond to GMB densities.

