Grape Root Borer Control

Isomate® GRB has received a federal label for use as a mating disruption formulation for grape root borer (*Vitacea polistiformis*) and currant borer (*Synanthedon tipuliformis*) in conventional and organically managed vineyards. It works by saturating the atmosphere of the treated area with an artificial material mimicking the pheromone secreted by the female thus preventing males from finding females in the vineyard. Isomate GRB is produced by Pacific Biocontrol Corporation, 14615 NE 13th Court, Suite A, Vancouver, WA 98685 (www.pacificbiocontrol.com).

Grape root borer is a pest in vineyards throughout the East. Studies conducted in Tennessee over a several year period showed that grape root borers were present in all parts of the state, however, populations of them were much higher in areas east of the Cumberland Plateau. Grape root borer presence often goes undetected since the adults are often mistakenly identified as wasps, even though they are clear-winged moths and because most of the insect's 2-year lifecycle is spent underground feeding on the root system of vines.

Affected vines may become weakened, unproductive, and die. In many cases, vine death is attributed to other causes such as cold damage when, in fact, the vine was weakened by grape root borer feeding to the point that it succumbed under conditions that would not normally damage a healthy vine. The number of grape root borers needed to dramatically impact a vine is very low. Research conducted in Georgia many years ago showed that one borer feeding site had the potential for reducing vine yields by over 40 percent and two borer feeding sites on a vine could reduce production by over 90 percent.

Control of grape root borer is geared toward breaking the life cycle of the borers and involves employing several practices including removal of wild grapevines near vineyards, cultural practices such as good weed control and canopy management to maintain good sunlight penetration to the soil surface under vines and timely chemical sprays to establish an insecticide barrier on the soil surface. Phermone traps and inspecting the ground around the base of vines for pupal cases should be done to determine whether grape root borers are still active within the vineyard.

The use of Isomate GRB should not be considered to be a replacement for any of these practices, especially in the first few years of its use. Over time, it could result in a significant lessening of grape root borer populations in vineyards to the point that soil insecticide applications may be discontinued.

Isomate GRB comes in dispensers. Recommendations are to use 100 dispensers per acre distributed uniformly throughout the vineyard (perhaps more around border rows and end plants to intercept adult grape root borers moving into the vineyard from adjacent areas). The

dispensers should be put into the vineyard prior to the seasonal emergence for the borer, which generally starts in early July in Tennessee. Dispensers should be attached to lower training wires, support posts or to the vines themselves at a height corresponding to about midway in the canopy. A minimum treatment area of 4 to 5 acres is suggested for effectiveness. The larger the treatment area, the better will be the results. Treatment will need to be applied over multiple years to have a long term.

For additional information on grape root borers in Tennessee, go online to: http://utextension.tennessee.edu/publications/Documents/W171.pdf.

David Lockwood
Plant Sciences
University of Tennessee