

## Reexamination of Grape Berry Moth Management Practices in the Lake Erie Region (Year Two)

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### Introduction

The Grape Berry Moth Risk Assessment (GBM RA) protocol was developed by Hoffman and Dennehy (1987) to address the possibility of reducing the number of insecticide applications necessary to manage grape berry moth damage to economically acceptable levels. This program was initiated by the processors' desire to reduce pesticides due to public concern and the growers' desires to reduce production costs (Martinson et al. 1991). The GBM RA protocol calls for a 10-day post bloom spray in high and intermediate risk vineyards. Low and intermediate risk vineyards are then scouted the third week of July to determine if an insecticide application is necessary during the first week of August. In high risk vineyards an early August insecticide application is made without sampling. Sampling during the fourth week of August is used in high risk vineyards to determine if a third insecticide application in late August is required.

Over the last four growing seasons, 'Concord' growers in the Lake Erie region have become concerned with an increase in late season berry damage. In 1997, a reexamination of current GBM management practices began by using pheromone trap catches and assessments of cluster and berry damage in three high risk vineyards across the Lake Erie Region, in an attempt to determine if a third generation of GBM caused this late season damage. Sampling just before harvest showed all three sites were well above federal inspection standards for insect damage (1% damaged berries by weight). Trap catches were used to define the first generation but were unreliable for determining the activity of the 2nd and 3rd generations of moths. The first generation peak occurred significantly earlier (~325 GDD base 50 F) than predicted by the growing degree day (GDD) model developed by Hoffman and Dennehy (~603 GDD base 50 F). Based on the assumption set by Hoffman (1990) that peak egg laying occurs 8 days after peak trap catches, in 1997 the 10-day postbloom insecticide application was too late to target first generation egg laying.

Extensive trapping and damage monitoring was conducted in 1998 to examine patterns in male pheromone catches and berry damage. This reevaluation of GBM flight activity and berry damage examined the distribution of damage in vineyards along North-South and East-West transects of the Lake Erie region.

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