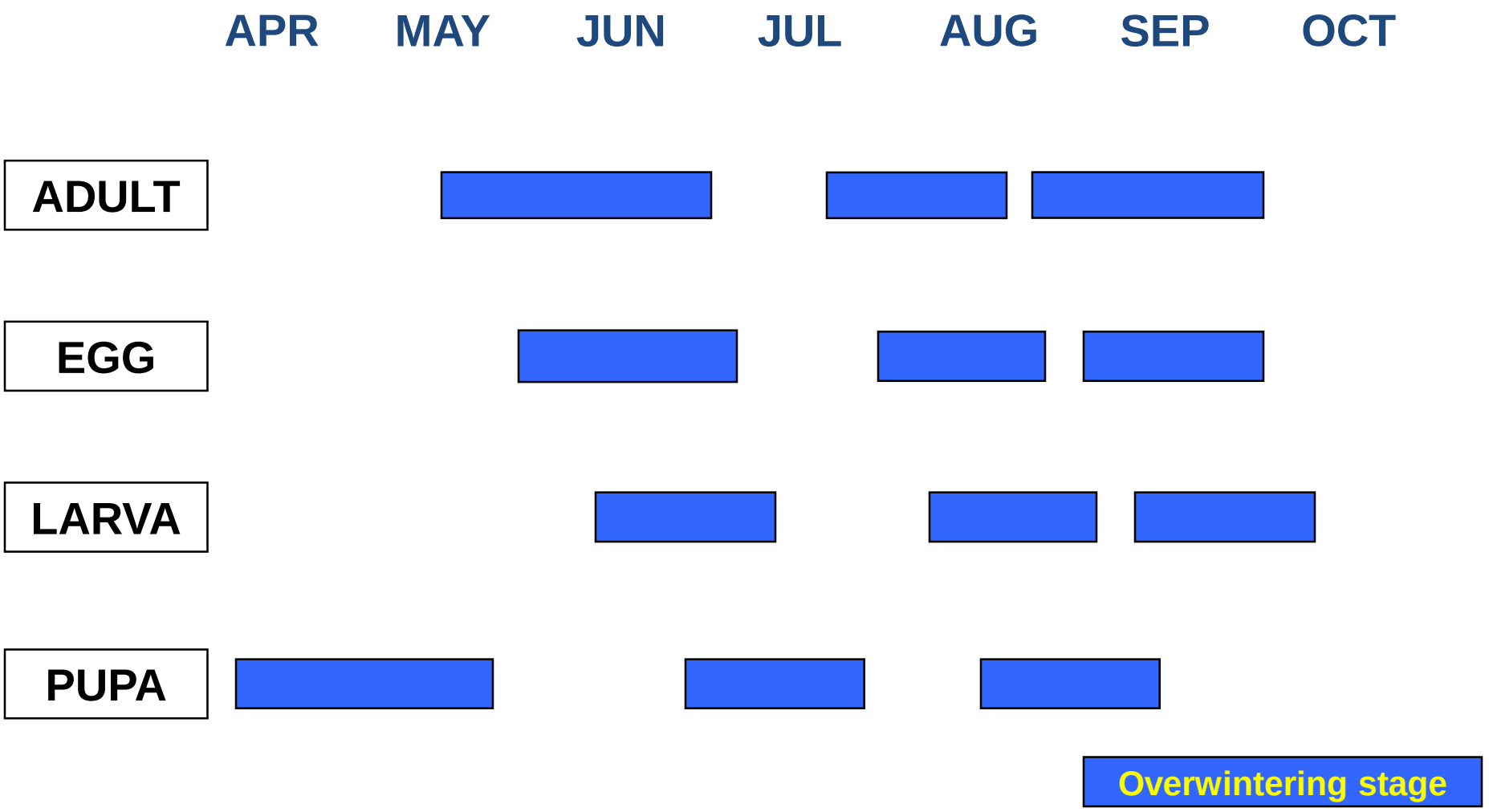
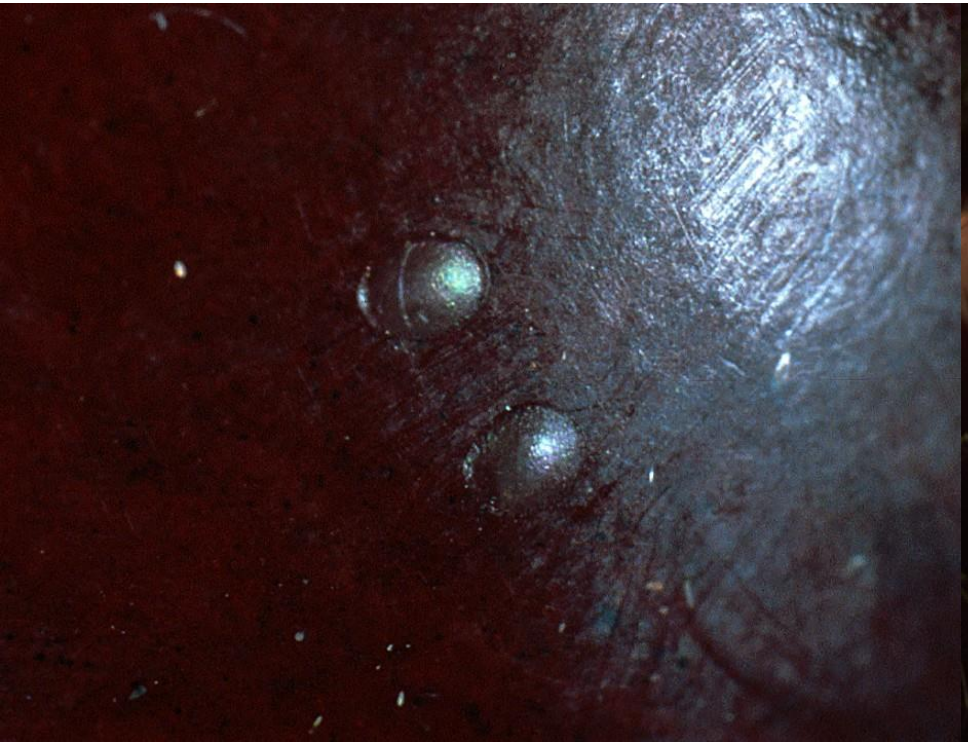
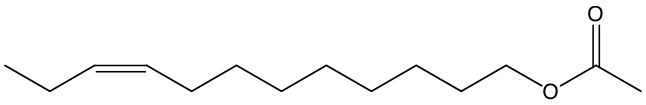
GRAPE BERRY MOTH
Paralobesia viteana
(Tortricidae)

GRAPE BERRY MOTH

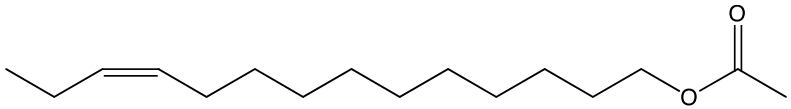


Insecticides target young larvae before entering berry

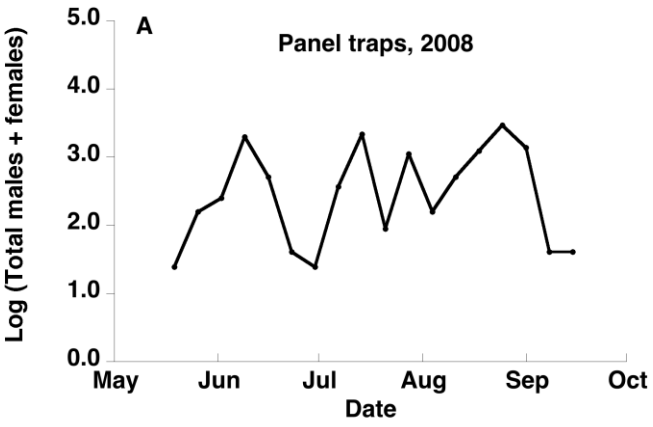


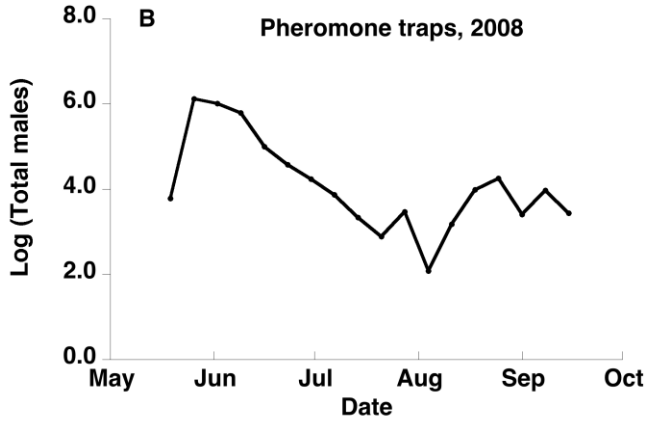


(Z)-9-dodecenyl acetate



(Z)-11-tetradecenyl acetate


A
Panel traps, 2008
Log (Total males + females)
5.0
4.0
3.0
2.0
1.0
0.0
May
Jun
Jul
Aug
Sep
Oct
Date

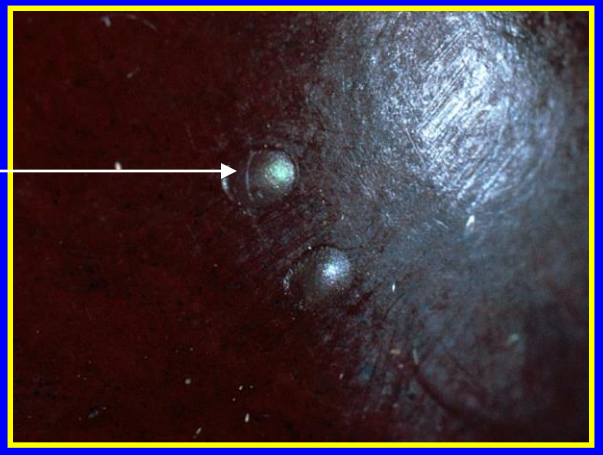

B
Pheromone traps, 2008
Log (Total males)
8.0
6.0
4.0
2.0
0.0
May
Jun
Jul
Aug
Sep
Oct
Date

WHAT IS PHENOLOGY AND WHY IS IT IMPORTANT?

Phenology: The study of periodic life cycle events

Importance: Successful management depends on life stage

Grape berry moth egg



DEVLOPEMENTAL RATES & NUMBER OF GENERATONS

(From Tobin et al. 2001)

- **Degree days (DD)**
  - -Base temp for development 47.1˚F
  - -Egg to adult development = 760 DD
  - -Pre-oviposition period = 50
  - -Total DD, egg to egg-laying = 810 DD
- **Number of generations?**
  - -2 to 4 depending on temperature and photoperiod/diapause

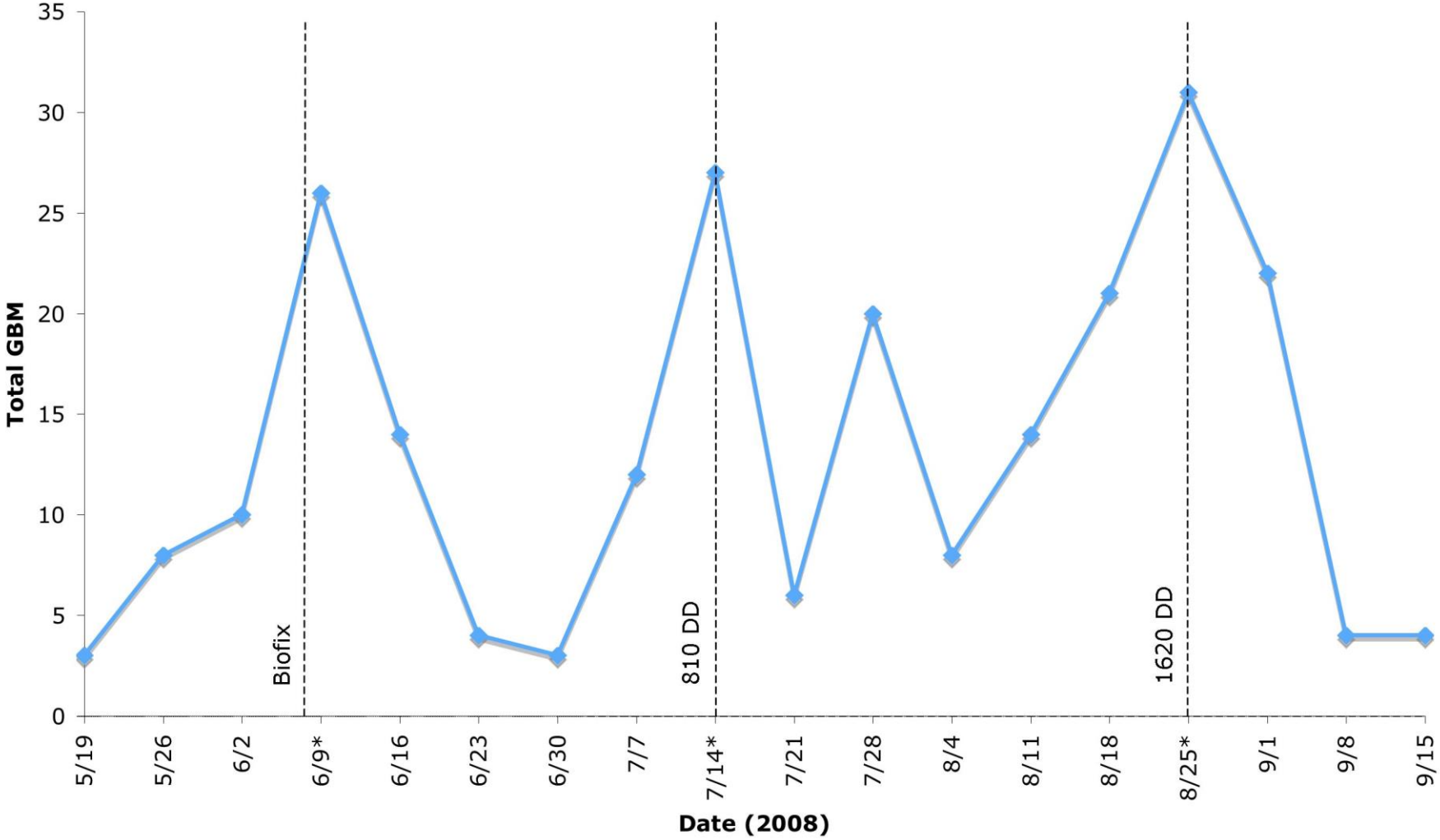
TEMPERATURE-DRIVEN PHENOLOGY MODEL

- Use degree-day accumulation to predict timing of each generation

- Biofix to initiate DD accumulation
  -temperature after 1 January
  -trap catches
  -bloom of wild grape

Vitis riparia bloom as biofix for GBM phenology model

2008 Cumulative GBM Captures in Panel Traps by Location (Male and Female)



New York State Integrated Pest Management Program

NEWA Network for Environment and Weather Applications

Search NEWA website

Enter Search... Search

Weather Data | Pest Forecasts | Station Pages | Crop Management | Crop Pages | About Weather Stations

Grape Forecast Models

NEWA Grape Forecast Models

Select a disease or insect: Grape Berry Moth

Weather Station: Potter

Date of Interest: 7/26/2010

Calculate

Map | Results | Help

Grape Berry Moth Results for Potter

Wild Grape Bloom: 5/28/2010

Wild Grape Bloom date above is estimated based on degree day accumulations or user input. Enter the actual date for blocks of interest and the model will calculate the results more accurately.

Accumulated degree days (base 47.14°F) wild grape bloom through 7/19/2010: 1138 (0 days missing)

Daily Degree Days for Potter

Base Temp	Past	Past	Current	5-Day Forecast				Forecast Details
	Jul 24	Jul 25	Jul 26	Jul 27	Jul 28	Jul 29	Jul 30	Jul 31
47.14F - GBM	32	24	20	23	29	23	19	21
Accumulation	1286	1310	1331	1353	1382	1405	1424	1445

NA - not available

Download Time: 7/19/2010 8:00

Pest Status	Pest Management
Second generation larvae are protected within berries and completing their development.	The time for treatment of second generation grape berry moth is over. Prepare to scout vineyards for grape berry moth damage when DD accumulation after wild grape bloom reaches 1470-1610 DD.

Disclaimer: ***These are theoretical predictions and forecasts.*** *The theoretical models predicting pest development or disease risk use the weather data collected (or forecasted) from the weather station*

NEWA GBM TEMPERATURE-DRIVEN FORECAST MODEL NOTES

- Website is http://newa.cornell.edu/
  -select pest forecasts, grape forecast models
  -select grape berry moth
- Choose nearest NEWA weather station (e.g. Highland HVL)
- Enter biofix (date V. riparia 50% bloom or let model choose)
  -use V. riparia along wood edge
  -avoid V. riparia next to buildings
- Model most useful for timing second and third flights
  -810 DD after biofix (2nd flight) & 1620 DD (3rd flight)
- Use 810 for insecticides that act w/ ingestion, long residual
  -Altacor, Delegate, Intrepid (not allowed in NY)

NEWA FORECAST MODEL NOTES - CONTINUED

- Insecticides that act on contact (e.g. synthetic pyrethroids) with good residual, use 810-850 or 1620-1660
- Insecticides with short residual (e.g. Dipel) require two sprays per flight
- Good insecticide coverage on berries is essential
- Model not useful in Late-season (after mid-August) in high pressure sites
  -Shift to materials with good residual, 10 to 14 day intervals
  -Be aware of PHI restrictions
- After mid-September, significant egg-laying ceases

QUESTIONS

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