EUROPEAN GRAPEVINE MOTH (EGVM)

Lobesia botrana

Description:

Adults:

Held in a bell shape over the abdomen when at rest, mosaic-patterned wings are tan-cream in color, mottled with gray-blue, brown and black blotches. Adults are approximately 0.24-0.3 in (6-8 mm) long.

Eggs:

Elliptical and flat, approximately 0.025 to 0.03 in (0.6-0.8 mm) and laid singly. Initially creamy white, turning yellow as they develop and later black when the head of the developing larvae is formed.

Larvae:

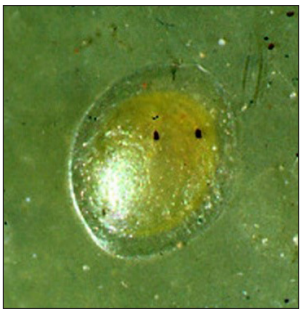
Five larval instars ranging in size from 0.04 in (1 mm) at emergence to approximately 0.6 in (15 mm) when fully grown. Creamy white in color with a black head when newly emerged and turning tan to yellowish brown as it develops with a darker brown to black border of the pro-thoracic shield.

Pupae:

Fifth instar larvae spin a grayish-white cocoon for pupation. Male pupae are approximately 0.16-0.28 in (4-7 mm) and female pupae are approximately 0.2-0.35 in (5-9 mm) long.

Hosts:

Primarily cultivated vines.



Left: EGVM adult. Center: Egg, in phenological stage of visible eyes. Right: larva on vine with dark marking on edge of prothoracic shield. (source: CABI Lobesia botrana Datasheet).

Damage:

- First generation larvae web and feed on flowers clusters.
- Young larvae feed within the berry and hollow them out, leaving skin and seeds.

Left: feeding damage by larva to flower before bloom. Note characteristic hole in the flower, webbing, and grass (source: Monica Cooper, UCCE). Center: third generation larva feeding on grape and Right: grape bunch affected by infection (source: CABI Lobesia botrana Datasheet).

- Generations later in the growing season cause greatest damage by webbing and feeding within bunches, which become contaminated with frass.
- Feeding damage to berries exposes them to fungal infections and secondary pests.

Phenology:

- Two to four generations per year depending on weather and location.
- Overwinter as pupa inside cocoon under bark, underside of cordons or in hidden places on trellis posts.
- Adults of first generation emerge when air temperature exceeds 50° F for 10-12 days and first flight lasts for 2-6 weeks.

Lure Type and Maintenance:

- PHEROCON® EGVM controlled release septa.
- Replace PHEROCON® EGVM lures every 4 weeks.
- Replace PHEROCON® EGVM L² lures every 8 weeks.

Lure Storage:

- Store in unopened factory sealed packages in a cool place (< 74° F or 24° C maximum).
- Refrigerate or freeze unopened packages to carry over for annual storage.

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EUROPEAN GRAPEVINE MOTH (EGVM), *Lobesia botrana*

Trap Design:

- PHEROCON® VI Delta, PHEROCON® 1C, PHEROCON® III Delta or PHEROCON® IIB.

Placement Time:

- Before bud break and spring emergence.

Placement Pattern:

- In a grid pattern throughout the vineyard.

Trap Density:

- Never use less than two traps.
- One trap per 10 acres (4 hectares).
- Space traps at least 50 feet (15.25 meters) apart.

Trap Maintenance:

- Check traps weekly.
- Replace trap liners monthly or when fouled with dust or insect debris.

Recommendations:

- First generation treatment is not suggested unless more than 200 moths per trap are captured.
- Use traps to determine generation development and best time to monitor bunches for the presence of eggs or larvae.
- Insecticide applications should be timed for larval emergence, thus monitoring egg laying and egg hatch are essential to management.

Source: Recommendations and certain other sections were sourced from CABI Invasive Species Compendium Lobesia botrana and UC IPM European Grapevine Moth Management.

Note, always:

- Use only one set of dual lures per trap.
- Count and record captures as recommended.
- Change trap as needed.
- Discard lures in trash far from the area of use and remove trash afterwards.
- Follow recommendations.
- Contact local extension authorities and consultants for regional advice.

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