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2020 Pesticide Safety August 20: Insect Review

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2020 - Insect review

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Pesticide Safety Zoom meeting
August 20, 2020
Insect review

- Today: focus on some big insect challenges
- Spring: blackheaded fireworm and Sparganohthis fruitworm
- Spring: cranberry weevil
- June: Cranberry fruitworm
Spring sweeping
winter moth

green spanworm

gypsy moth

Sparganothis fruitworm

blackheaded fireworm

false armyworm

LOW NUMBERS SIGNAL PROBLEM!
Frontload management effort in spring
Sweep early; act promptly

• Really pays off in long run
  – Easy to manage in spring
  – Not easy to manage next generation in summer

• Blackheaded fireworm and Sparganothis detection pose a challenge for scouts; get up to speed
Life Cycle of the Blackheaded Fireworm

- 2 to 3 generations per year
- Eggs overwinter

Figure: Sheila Fitzpatrick
Sweeping tips

• 1 sweet set (25 sweeps)/acre
  – (reduce for larger beds)

• Believe you will find a larva -- keep looking; dingy, small beat-up creature mixed with trash or clinging to net

• Large larvae are readily picked up in net
  – numbers better reflect infestation
  – harder to manage, though
• Threshold is set low: average 1-2 larvae/sweep set
  – Mainly because:
    • low efficiency of sweeping when larvae are small
    • populations are patchy
    • difficulty of spotting them in net
Intrepid (methoxyfenozide) is good option for small larvae. May need two apps. Preserves natural enemies. Alternates are Avaunt, Delegate, diazinon

Delegate, Avaunt good options for large larvae in 1st gen
Intrepid – reduced risk option

• Caterpillar compound
• Messes with molting

• Good coverage needed
• Long residual
• Key to BHF: there’s a short window of opportunity--larval stage is quick (few wks).
Even full grown, larva is ca. 1/3 inch

Photo: Charlie Armstrong, UMaine
Photo: Charlie Armstrong, Maine Dept Ag
Later injury
Blackheaded fireworm injury
Hatch time may vary in non-uniform sites
Rank vines at a low-management site
Sweep all season

Pheromone trapping to monitor male flight of 2\textsuperscript{nd} generation

Install in early June and check every few days until first captures and then weekly thereafter
Sparganothis fruitworm moth

Photo: E. de Lange
Comes in different styles— the wriggler

Sparganothis fruitworm
Sparganothis fruitworm management

- Spring sweep and do visual inspections of loosestrife
- Make every effort to manage first generation
• Missed fireworm or Spag in Spring!
• Now, they will reappear in summer and can feed on berries
• Much harder to control
• Use pheromone traps to time sprays (review in UMASS Chart Book)
Sweep all season

Pheromone trapping to monitor male flight of 2nd generation

Install in early June and check every few days until first captures and then weekly thereafter
Spring management of cranberry weevil

- Adults move onto bog over May/June—sweep to sample
- Easy to overlook in net
- Bad spray conditions in spring and extended migration have made management very hard
Spring

Avaunt (or Actara if you have resistant populations)

Summer

Actara
Actara

- Spring/Summer weevil; super toxic to bees
- Moves into plant—50% penetration after 4h
- High residual control
June: Cranberry fruitworm
At the outset, female moths seek enlarging fruit.
Management: use plant phenology

1. Calculate percent out-of-bloom (review in UMASS Cranberry Chart Book)

2. Keep eye on bog to confirm: when a sizable fraction of pinheads has enlarged, females will start egglaying
Refer to the Chartbook

For every acre, go out and randomly (eyes closed) collect 10 uprights and record counts of buds, flowers and set berries. Graph points if needed to approx. 50%

\[
\% \text{ out-of-bloom} = \frac{\text{total number of pinheads and fruit}}{\text{total number pods, flowers, pinheads, and fruit}} \times 100
\]

*For Howes -- Apply 1st treatment 7-9 days after 50% out-of-bloom.*

*For Early Blacks, Ben Lears and Stevens -- Apply 1st treatment 0-7 days after 50% out-of-bloom.*
Cranberry fruitworm recommendation
Use Altcacor

**App 1**
- Determine when bog approximates 50% out-of-bloom
- Spray 0-7 days after 50% out-of-bloom

- For Howes: Spray 7-10 days after 50% out-of-bloom

**App 2**
- Spray again 10 days later
• Egg in calyx hatches, and larva usually goes to stem end to enter; larva covers entry with bright-white silk

• Larva moves between berries as each is filled with excrement pellets (frass); berry turns red
Be sure to distinguish between fruitworms; management is completely different.
Insect review

• Sweep early; act promptly
  – blackheaded fireworm
  – Sparganothis fruitworm
  – cranberry weevil

• Get the pheromone traps out June 1 for moth flights, esp. if missed early window
• Monitor % out of bloom to manage cranberry fruitworm
• Use reduced-risk options wherever possible
• Keep records for each piece; know your problems