Spotted-Wing Drosophila in New Jersey Wine Grapes

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1. SWD Vinegar Trap Monitoring, Larval Salt Baths

2. Natural infestation

3. Field no-choice test

4. BMSB and SWD interactions
SWD Vinegar Trap Monitoring and Larval Salt Baths

- Sampled 2 vineyards using ACV traps
- Prevalent throughout ripening of grapes
- No larvae found in grapes after 8 weeks of salt baths in August and September
Starting at veraison, collected 5 grape clusters/variety/week

- Commercial vineyard 1: significant increase in Cab. Sauv. infestation in mid Sept. and in Chambourcin in early Oct.
- Cab. Sauv. increased infestation at 4 and 7 weeks past veraison
- Chardonnay and Merlot had low but constant fly damage until harvest
• Overall Cab. Sauv. infestations higher than in Chambourcin or Chardonnay

• Low impact SWD infestation – Max. 8/cluster. Average >1/cluster in all varieties. In Chambourcin this is approx. 11,000 SWD/acre.
• Determine grape varietal and phenological susceptibility
  – Cabernet Sauvignon, Traminette, Chambourcin, and Chardonnay,
  – 5 female and 2 male were added for three days
  – Infestation began at veraison and continued biweekly
• Determine grape varietal and phenological susceptibility
  – No strong trend of varietal selection, significant increase in Chardonnay infestation in late August
  – Overall low infestation
  – Higher than natural infestation, differences in variety
Chambourcin
• **BMSB and SWD interactions**
  - Same as manipulated infestations, but included pre- or post-exposure of grapes to BMSB adults for one week and assessed for damage
  - Cab. Sauv. more susceptible to fly infestation when BMSB attacks after oviposition, associated with reduced berry weight
  - No clear trend in interaction data between SWD and BMSB in Chambourcin or Traminette

• **African Fig Fly**
  - At 1 commercial vineyard, 3 AFF were covered from Cabernet Sauvignon clusters, 1 from Merlot and 1 from Chambourcin
Insecticide Trial in Blackberry

- Evaluated Malathion and two rates of Exirel for SWD control in blackberry
- Two timings (3 weeks apart)
- Collected fruit at 0, 3, 7, 14 DAT
- Fruit held for 2 weeks
Insecticide Trial in Blackberry
Average number of emerged adult flies (weight adjusted) vs. Harvest (days after treatment)

- Control
- Exirel (16oz)
- Exirel (8oz)
- Malthion (32oz)

Key:
- a = Significant difference
- b = Significant difference
- ab = Significant difference
- n.s. = Not significant

Management in Blackberry