Summary – PCA Breakfast

Sonoma County
04. April. 2024

Topics for Discussion

1. Review vineyard insect pests and diseases during early shoot growth.

2. Discuss vine mealybug spring programs, mating disruption options and inspecting nursery green-growing plants for vine mealybug before planting.

3. Group discussion and reporting on monitoring for sharpshooter, scale and other insect pest and management options.

Other topics

1. Bird boxes in Sonoma + BGSS – Russian River?
2. Location for sampling BGSS
3. Sharpshooter/Leafhopper ID Workshop – Registration closes on Monday the 8th
    a. April 10 – 8am (21), 9:30am (8), 11am (8)
    b. April 11 - 8am (8), 9:30am (5), 11am (13)
4. Other Events

7:30am – 9:00 am = Discussions

1. **Pre-Discussion**
    a. **Upcoming events**
        i. Sharpshooter Identification Workshop
        ii. Pear and Grape Day
        iii. Oakville Grape Day
        iv. Soil Carbon Workshop
        v. ucanr.edu/site/ChenLab/Events

    b. **Breanna Martinico – Songbirds**
        i. Need a vineyard in Sonoma County with BGSS
        ii. Vineyard with Songbirds (bluebirds and swallows)
        iii. Small bird boxes preferred
        iv. 4-6 week period for single site
        v. Weekly access to collect bird droppings (summer)
        vi. Analyze what they've been feeding on
        vii. What role do they play in controlling BGSS?

    c. **Sampling BGSS - Projects**
        i. Rodrigo Alameda (UC Berkeley)
        ii. Looking for location to sample BGSS in Sonoma Co
        iii. One or two days to sweep for BGSS
        iv. Need to be a vineyard
        v. Goal is to verify population assumptions

    d. **Spring fever / nutritional issues**
        i. Grows out of it each year after warmer temperatures
        ii. Nitrogen to Putrescene
        iii. Adding more nitrogen makes the symptoms worse
        iv. Boron to offset symptoms?

1. Boron and spring fever can exacerbate each other

v. Foliar Calcium may help reduce symptoms
vi. Site conditions and cultivar matter a lot
vii. Relationship to stored carbohydrates
    1. Weaker and younger vines show more symptoms
    2. Seen less symptoms in older, bigger vines
    3. Following years with high vigor may increase symptoms
viii. Uneven budbreak

e. Rattlesnakes

i. King snakes to control rattlesnake populations
ii. Bella Vista Vineyard Management has released King Snakes to control rattlesnakes
iii. Careful – may introduce diseases into the native populations
iv. Great horned owls will feed on rattlesnakes
v. Other owls unknown
vi. More information: Breanna Martinico (bmartinico@ucanr.edu)

2. Review vineyard insect pests and diseases during early shoot growth.

a. Incidental Pests

i. Cutworms
    1. Often found at the bottom of water flows in vineyards
    2. Under oak trees is a common habitat

3. Habitat that is slightly warmer
4. Not usually a big issue except early in the season when they feed on early growth in vineyards
5. Not uniformly distributed in the field
6. Beneficial nematodes (EPNs):
    a. Target at the base of the vine
    b. Good for soil-borne larvae or pupae
    c. Contact spray
    d. Enter in orifice of larvae and multiply
    e. Dry powder (inactive state)
    f. Grub Control
    g. EPN (entemo-pathogenic nematodes)
    h. Diplogasterids are the most suited for biocontrol of nematodes, because of their short life cycles, easy culture, prey-specificity, chemotaxis sense and resistance to adverse conditions
        i. https://www.sciencedirect.com/science/article/pii/S0929139306001806
7. Foliar spray = 8% dilution (allegorical)
    a. Biotam / *Bacillus thuringiensis* / *B. basianna* + fertilizer w/ molasses (for *Trichoderma*)
    b. 2nd spray after 4-6”
    c. 3rd spray is standard sulfur spray program

ii. Snails and Slugs
    1. Lots following wet winters

iii. Earwigs
    1. Not a lot of products to control earwigs

iv. Deer
    1. Most common pest in early spring

v. Look at location and history of pest damage rather than a general recommendation

b. Lacewings

i. Two to three generations per year
ii. Sprayable Lacewing eggs
    1. Xanthan based adjuvant with eggs
    2. Limit of time they can be submerged
    3. Tank mixes vs. Backpack Sprayers
        a. Currently, unknown efficacy of tank mixes
        b. ATV sprayers used now
    4. Distributed to Wilbur-Ellis and Koppert
iii. Voracious feeders in larval stages, will eat each other; adults do not predate but produce eggs to maintain populations of predatory larvae
iv. Go after prey that increases in size as they increase in size
v. May predate on insects larger or smaller than themselves; whatever is closest
    1. Mealybugs
    2. Leafhoppers
    3. Aphids
    4. Mites
    5. Etc…

c. Powdery Mildew

i. USDA fungicide resistance
ii. Glove testing
iii. Likely to have high pressure this year
iv. Mildew index will start when Lake County hits 50% budbreak (predicted mid to late April)

3. **Discuss vine mealybug spring programs, mating disruption options and inspecting nursery green-growing plants for vine mealybug before planting**
    a. B

4. **Group discussion and reporting on monitoring for sharpshooter, scale and other insect pest and management options.**
    a. **Blue-Green and Other Sharpshooters**
        i. UCCE Workshops for ID (April 10-11)
        ii. Trapping information: ucanr.edu/bgss
            1. Traps are collected in a three-week cycle
            2. Majority of BGSS trapped was in Russian River Valley (at one particular trap)
            3. Yellow sticky traps without pheromones
        iii. Concerned about overwintering generation in 2024
            1. Few hard freezes in winter 2023-2024 compared with the previous year
            2. Winter 2023-2024 was also very wet and had warmer than average temperatures; may be conducive to higher spring populations
        iv. Early winter vs. early spring freezes
            1. Early winter may be more effective at killing off BGSS populations due to less foliage to hide in (not supported with evidence yet)
        v. UCCE IPM is collecting data to identify cause of widespread Pierce's Disease outbreaks which occur once or twice a decade
        vi. BGSS status (April 4, 2024)
            1. Several trapped at high pressure sites already

vii. Plans for BGSS controls in 2024
    1. Will any control plans change?
    2. Soil applied product around 6-8" of vine shoot growth
        a. Should application timing wait for more growth
        b. Race to bloom with noenicitinoid recommendations
    3. Look for peak trap count before applying chemicals (e.g., Sivanto)
        a. Sivanto residuals stops "feeding sensation" for a week
        b. Doesn't kill BGSS for 10 days
    4. Wait for drier period to apply or work with GDDs for estimating emergence period.
        a. Soil closer to field capacity may help with chemical uptake (e.g., Imidacloprid)
        b. Platinum for heavier soils
        c. Admire for lighter soils
    5. Higher number of insects it is more likely to have higher instance of PD
viii. Overwinter Curing of PD requires a number of chill hours below 42 °F:
    1. Pinot Noir = 195 hours
    2. Cabernet Sauvignon = 302 hours
    3. Source: https://pubmed.ncbi.nlm.nih.gov/22070280/

b. Leafhoppers

i. In the leaf litter already in Lake County
ii. Pyganic and 2% oil applications
    1. ½ gallon oil + 1 pint Pyganic

2. Oil emulsifies Pyganic and reduces volume requirement to provide adequate control
3. Overwintering spray succeeds in killing adults
4. Early 2% oils rather than 1%
    a. Phyto damage possible during cold days and hot days
5. Three applications per year reduces populations
    a. Fall (post-harvest – mid October – Lake Co.) application after harvest (targeting VCLH)
    b. Spring application following first nymphs
6. Target shoots (3-6" of growth) and leaf litter
7. Just 2% oil once found on cordons

c. Orange Tortrix

i. Surge of populations last year (2023)
    1. Botrytis in clusters
    2. Adults flying in canopies
ii. Is there anything you can do now (early spring) to limit outbreaks later in the season?
iii. What can you do to stay ahead of OT infestations
iv. Management Options
    1. *Bacillus thuringiensis* sprayed seems to work when sprayed in problem spots
        a. Early spray
        b. Spray at bloom or set
        c. Longer coverage time and area coverage is better for control
    2. Trapping is difficult (high trap numbers no matter what)