UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

Summary – PCA Breakfast

Sonoma County
01. August. 2024

Topics for Discussion

1. Pre-discussion
2. Pre-Harvest Pest Topics and BMPs
3. Current Pest Issues
4. New Technology
5. e
6. f

Other topics

1. Upcoming Events
2. Laws and Regulations in Spanish
3. c

1. **Pre-Discussion**
    a. Upcoming Events – none
    b. AGR 112 – Viticultural Practices Class (Mendocino College)
    c. Laws and Regulations in Spanish (DPR CEUs)
        i. Workers or supervisors that primarily speak Spanish
        ii. Would allow non-licensed people to attend
        iii. Targets licensed PCAs, QALs, QACs
        iv. Interest in this kind of event
    d. PCA Luncheon
        i. La Crema Facility
        ii. 7. November. 2024
        iii. Food?
            1. Pasta King
            2. BBQ

2. **Pre-harvest pests**
    a. Whiteflies
        i. Pope Valley gets surges of whiteflies
        ii. Leave a clear residue on the clusters
        iii. Admire used to manage via foliar application
            1. Stops feeding right away
            2. Starts reducing populations in about 10 days
        iv.

3. **Current Issues**
    a. Botrytis
        i. Pinot and Chardonnay has some already
        ii. Very bad in Mendocino County most years
        iii. Some growers use overhead irrigation to cool canopies
        iv. Historically, it tends to dry up but not this year

v. May have to do with high humidity from over irrigation
vi. Some growers use overhead anyways to rewet the soil `

b. Powdery Mildew

i. Doesn't seem to be a mildew year for some people

c. Mealybug (Vine or Grape)

i. New or returning infections
    1. Returning infections
        a. Movento early season injections
        b. Pheremones
        c. Trap counts
        d. About $250/acre + labor costs
    2. New infections
        a. Not spreading, but present
        b. Don't hang tags until crawlers are seen
        c. Don't do early season injections
        d. Limit proactive Movento applications

ii. Do we need to change our approach to mealybugs?
    1. When grapes aren't sold and the infection isn't spreading then why would the grower spend $250/acre
    2. Grower goals are to reduce costs per acre
    3. Need a concerted regional approach
        a. Napa County does this
        b. But it costs a lot of money
        c. And requires support from growers
        d. Need growers to want to work together
        e. Napa also has a Pest Control District to fund these regional approaches
    4. Ideas for next year

a. Trial done in Carneros in mealybug infested vineyard
b. Trapping, waiting for first major peak in all traps, then Movento and pheromone tags go out
c. Study with a grower-standard, model vineyard examining the efficacy of two or three management models
    i. Would want to replicate it over time or over different vineyards to make sure that results were not random
    ii. Help vet out early season, ineffective treatments
    iii. Possible collaboration with companies like Wilbur-Ellis and UCCE Advisors
    iv. Requires establishment of a system of collaborators to make something like this happen. Would need providers of:
        1. Sites and labor
        2. Chemicals (donated in-kind)
        3. Research/Data Collection
        4. Data analysis and summary
    v. Scientific research requires collaborators to achieve this, but need a hypothesis to justify funding
        1. Should be able to list who wants to collaborate before submitting a grant

vi. Monica Cooper and Kent Daane should be included for replication or 2-3 year study
vii. Design a project outline in September/October to make sure RFPs for grants are met by their deadlines (e.g., Dec. – Feb.)

d. New Technology

i. Eavesdropper
1. Can pick up feeding of insects on grapevines
2. May be able to separate species by feeding
3. Been done with Corn Borer already
4. Works on roots or aboveground tissues
5. Helps find where treatment is needed
6. Can measure four plants at a time per device
7. Would this be useful for a hard to find pest like Vine Mealybug?
8. Should start by classifying the feeding habits and sounds associated with each insect species.
    a. Identify what time of day a single insect species feeds
    b. What does the feeding sound like for each species?
    c. What mouthparts are associated with the pest? (Chewing, Piercing/Sucking)
9. Considerations
    a. Costs
        i. Recorders = $20 each
        ii. Whole System = $150 total
    b. Would help with older infestations to audit control success in those areas

10. Could work with the integrated project mentioned above
11. Is it possible for the signal to also identify population sizes?
12. Could it separate endo or ectoparasitic nematodes by their feeding styles?
    a. Would depend on the limitations of the device and if nematode feeding is even loud enough to record

ii. Identifying Treehoppers
    1. Use vibrational signaling on vines to find mates
    2. True for GWSS and BGSS too
    3. Tap on vines in specific patterns associated with each species
    4. Rodrigo Kreuger in Parlier (USDA) has worked on this as well
    5. Can you create an inverse pattern to repel the pest too, or just to attract them?

e. Spotted Lanternfly

i. Basic trapping
    1. Sticky tape around the tree (light brown color)
    2. Homemade traps
ii. Considerations of trapping before arrival
    1. Don't know where it'll be first introduced
    2. Extra cost and attention needed
iii. Training Master Gardeners
    1. MGs will probably see SLF before agriculture will
iv. Article by Cindy Kron in August Issue of CAPCA

f. **Tree of Heaven**
    i. Control
        1. Foliar herbicide spray or lancing-herbicide application in late summer
        2. Herbicide injection or cut back and stump painting during dormancy transition
        3. Herbicide types used
            a. Triclopyr
            b. Glyphosate
    ii. Resources
        1. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5410131.pdf

g. **Abiotic Stress**
    i. Sunburn and Heat Stress
        1. Sulphur applications < 10 days before heatwave resulted in huge damage
        2. Petite Syrah very damaged
        3. Orientation of row mattered a lot
        4. Rootstocks impacted amount of damage
        5. Irrigation wasn't sufficient (normal irrigation)
        6. Berry size down ≈ - 15-20%
            a. Nothing is sizing up right
        7. Split berries, sunburn, and late season Aspergillus
        8. Berry splitting
            a. Aspergillus
            b. Cladosporium
            c. Sour Rot
        9. Natural fermentation can help limit the effects