

Summary – PCA Breakfast

Mendocino & Lake Counties

21. March. 2024

Topics for Discussion

1. Vineyard insect pests and diseases during early shoot growth.
2. New Technologies
3. Budbreak and early-season sprays
4. Pest Monitoring and reporting for sharpshooter and other insect pest and management options
5. Potential Research
6. Desired Events

Other topics

1. Frost Nucleating Bacteria and Chasmothecia
2. Pinot Leaf Curl
3. Phomopsis
4. Cutworms
5. Borers and Leafhoppers
6. Thrips

7:30am – 7:45am = Introductions

7:45am – 9:00 am = Discussions

1. Pre-Discussion

- a. Upcoming events – Covered until June 12
 - i. April 24-25 = Organic Crops day
 - ii. April 10-11 = Sharpshooter ID workshop
 - iii. May 28th = Pear and Grape Day
 - iv. June 5th = Oakville Grape Day
 - v. June 12th = Science of Soil Carbon
- b. PCAs and QALs without emails – spread the word
- c. Taking notes – for folks who can't attend or want the information.
- d.

2. Early Season Insect Pests

- a. Cutworm
 - i. Why is it more of an issues now than before?
 - ii. May have to do with height of weeds
 - iii. If it can reach the vine zone then it becomes more of a problem
 - iv. Can't mow as early due to wet soil
 - v. Can impact production by killing the primary shoot
 - vi. Impacts different vines every year

3. New technology

- a. Sound identification of pests - Emily Bick
 - i. Laboratory website: <https://www.bicklab.com/>
 - ii. Insect feeding noise identified by sounds
 1. Works with:
 - a. Piercing-Sucking mouthparts
 - b. Chewing mouthparts

- iii. Able to separate insects by unique sounds
- iv. Tested with:
 - 1. Corn Root-Borer
 - 2. Japanese Beetle
 - 3. Other
- v. May be able to use in vineyards with:
 - 1. Vine Mealybug
 - 2. Nematodes?
- vi. Different species tend to feed at different times of the day
- vii. Works on both above and below ground
- b. New Technology – LiDAR identification of flying insects
 - i. [Link to paper](#)
 - ii. <https://www.researchgate.net/publication/348518181> Advances in automatic identification of flying insects using optical sensors and machine learning

4. Budbreak and Early-Season sprays

- a. Budbreak
 - i. 1-2 weeks behind in Anderson Valley
 - ii. Normally, mid-March (15th) is start date
 - iii. This year (2024) \approx March 25th (estimate)
 - iv. Mendocino
 - 1. By April
 - a. 150 GDDs = late start
 - b. 300 GDDs = Normal start
 - 2.
 - v. Lake County

1. Budbreak \approx 1st week of April

b. Early season sprays

i. Anderson Valley = 1st or 2nd week of April

ii. Mendocino County = 2nd or 3rd week of April

iii. Lake County = late April

5. Pest monitoring

a. Blue Green Sharpshooter

i. Minimal monitoring in Mendocino

ii. Sonoma County Trapping

1. 104 traps in Sonoma County

2. \approx 80 traps in Napa County

iii. Trapping will continue until next large PD outbreak

1. What are population sizes the year prior?

iv. This winter's weather may be ideal.

1. Good cover growth for BGSS to live on

2. Less hard-freezes than Jan-Feb 2023

a. Kills BGSS

b. BGSS can survive in warm pockets

3. *X. fastidiosa* may have survived the winter in BGSS

4. Overwintering population biggest impact on infection rate and spread

v. Dry season vs. Wet season

1. 2020 (dry year) = 11

2. 2023 (wet year) = 27

b. Pierce's Disease (*X. fastidiosa*)

i. Between Talmage and Hopland

ii. Outbreaks are episodic (\approx 10 year cycles)

iii. Plantings near riparian areas from 1980s onward have been cleaned up or removed due to PD and high BGSS populations

1. Especially areas with Blackberries

iv. Pierce's Disease in olive trees?

1. No reports known among the group

c. Leafhoppers

i. Virginia Creeper Leafhopper

1. Early reproduction

2. Spraying oil

- a. Need good spray coverage on underside of leaf (where immatures live)

- b. Must be applied on a cooler day

- c. Lays rows of eggs (2-9 eggs in a row)

- i. WGLH lays individual eggs

- ii. Covered with protective material

1. May help reduce parasitism

- iii. Prefer glabrous leaves without tomentum

- d. Some predators, but local *Anagyrus* species may not recognize VCLH

- i. e.g., Green Lacewing

- e. Scouting would help

- i. Sampling leaves with feeding damage

- ii. Basal leaves typically

- f. Timing is important

- i. Too early would lead to a need for multiple sprays (later hatching)

- ii. Too late and VCLH is too mature

- iii. Don't use Western Grape Leafhopper as a timing mechanism

- iv. Sample directly for VCLH

d. Spotted Lanternfly

- i. Intercepted on CA border in Truckee

- ii. Found dead in plane hulls

- iii. Not yet reported any live specimens that have not been intercepted by CDFA

6. Potential Research

a. Leafhoppers

i. Virginia Creeper Leafhopper

1. Start earlier
2. Outcompete other leafhopper species
3. Does not need *grape leaves* to start reproduction
4. Need fully-expanded leaves to lay eggs
5. Lays eggs before Western Grape Leafhoppers
6. Surround for discouraging egg laying?
 - a. No work in grapes?
7. Vibration based mating disruption?
 - a. Not all insects use pheromones

ii. Houston Wilson work in N. CA

1. Proposed project (in review for funding)
 - a. Green lacewing control of leafhoppers in the vineyard
 - b. Sample of grape leaves
 - c. Applied using spray-rig of lacewing eggs
 - i. CCOF approved in 2023
 - ii. ATV or Drone applied?
 - d. Test of sprayable method and application efficacy
 - e. Rate still up for debate
 - i. Currently 10,000/acre is estimate
2. Previous project – *Anagyrus* spp. Study
 - a. Funding insufficient this year
 - b. Will likely apply for larger grant in 2025
 - c. Previously reared and released, but did not establish in the N. Coast counties
 - i. Not sure why it failed to establish

- b. Clonal trial – Berry shrivel in Red Hills
 - i. Reducing berry shrivel in vineyards in hot climates
 - ii. In consideration with funding agency

7. Desired Events

- a. Virginia Creeper workshop
 - i. Identification
 - ii. Treatment options
 - 1. Lucia's work on different materials
 - 2. 10+ years old
- b. Wine Events
 - i. How to educate workers on what different **characteristics of wine are based on practices in the vineyard?**
 - 1. Practices
 - a. Exposure to sunlight
 - b. Dry-farming
 - c. Varietal and clone
 - 2. Features
 - a. Tannins
 - b. Color
 - c. Wine descriptors
 - ii. **Farming for Flavors** - Example event (from one participant)
 - 1. Flavors, nose, vegetative
 - 2. What could create these features in the wine?
 - 3. How common practices impact these features
 - a. What happened in the vineyard
 - 4. Bring the actual flavors people use to describe the wines
 - a. i.e., grass, vanilla, burnt tires, petrol
 - b. Use neutral wines (blank slate)