Overview of Major Grape Foliar and Fruit Diseases in the USA

FRAME Training Module 1 – Curriculum Guidelines For Module Delivery

Target Audience

Extension professionals, crop consultants, vineyard managers

Delivery and Learning Objectives

Content is designed to be delivered in a workshop format—either online or in person.

The activity consists of a presentation/seminar that provides an overview of the major foliar and fruit grapevine diseases in either the Western or Eastern/Midwest regions of the United States.

Following the presentation, participants complete a diagnostic pop-quiz to test their ability to identify the diseases covered.

After the pop-quiz, there is interactive group work (or breakout room work), during which participants walk through a set of prompt questions designed to stimulate discussion and information sharing regarding diseases in their region, the resources they use, and where they feel there may be information or resource gaps.

Workshop Materials

Workshop Contents

- Pre-recorded FRAME presentation (45 minutes) targeting either the Western or Eastern United States. The presentation is provided in .mp4 format.
- Pre-developed slide deck for either the Western or Eastern United States, including introduction slides, areas to input your own program logistics, the diagnostic pop-quiz (with answers), and prompt questions for the interactive group work.

Handouts for Participants

- FRAME Factsheet: *Influence of Environmental Conditions on Grape Foliar and Fruit Diseases and Their Management*
- FRAME Factsheet: *Fungicide Resistance Management in Vineyards*
- FRAME Factsheet: *Vineyard Disease Management – A Checklist*
- *Overwintering in Buds: A Hidden Challenge for Grape Powdery Mildew Management* – A WineBusiness Monthly Article
- FRAME Module 1: Breakout Room / Group Work Handout
- *All handouts are also available online at the FRAME Educator's webpage under Module 1:* https://framenetworks.wsu.edu/educator-information/.

Advertising the Workshop

When advertising this workshop, please use the following language in your advertising campaigns / webposts:

The contents of this workshop were developed as a part of the Specialty Crop Research Initiative Award No. 2024-51181-43184 titled "Pathogen Monitoring and Disease Management Within a Vineyard

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FRAMEwork,' from the U.S. Department of Agriculture's National Institute of Food and Agriculture. Please visit https://framenetworks.wsu.edu/ for more information.

Workshop Flow and Tips

Pre-workshop Recommendations

Prior to setting up the workshop, determine whether you will be offering regional pesticide applicator recertification credits (or equivalent training credits). Check with your local agencies to determine their requirements regarding activity duration, attendance verification, and workshop learning validation.

You may also wish to establish a pre-meeting survey (completed at the time of registration) and a post-meeting survey to assist in collecting baseline information for your region. Potential survey questions are provided at the end of this document.

Workshop Agenda

- (5-10 minutes) Use the pre-developed slide deck to introduce yourself and the activity to the audience. This is also where you can add specific logistical information regarding regional licensing/credit requirements.
- (45 minutes) **Play the FRAME pre-recorded video**.
- (10-25 minutes) Following the pre-recorded session, offer the pop-quiz. Delivery will vary slightly depending on whether the workshop is online or in person. Regardless of format, after each diagnostic slide/question, provide the correct answer(s) and explanation (available in the pop-quiz answer key).
    - *Webinar:* We recommend offering a brief pre–pop-quiz poll to familiarize participants with the polling process. Use grape-specific or fun regional facts for this poll. One to two questions are sufficient.
        - For the diagnostic pop-quiz, display each question slide for approximately 10 seconds, then launch the corresponding poll. Leave the poll open for 15–20 seconds. This order is important, as in many webinar platforms, the poll window may block the displayed images.
        - If you need to fill time, display all pop-quiz questions. If you need to shorten the session, display only 4–5 questions.
    - *In-person:* Display the individual slides, allowing folks to view them. Then let the individuals raise their hands for each option they think is correct.
        - Optional – If you are comfortable, you can swap in your own diagnostic pictures for the pop-quiz.
- (20-30 minutes). Following the pop-quiz, begin the interactive session. Share the prompt questions and proceed as described below based on presentation format.
    - *Webinar*
        - Pre-assign attendees to breakout rooms at the start of the meeting to help maintain flow.
        - If using a moderator for each breakout room, pre-select individuals before the webinar to confirm their willingness and attendance.

  - *In-person*
    - We recommend pre-assigning individuals to working tables or providing group numbers (if not seated at tables) to facilitate quick group formation.
    - A designated group moderator may not be necessary, as meeting hosts can circulate to stimulate discussion.
- (10-15 minutes) Wrap – up.
  - Bring everyone back together and invite volunteers to share diseases discussed, common challenges and successes, and identified follow-up needs.
  - Open the floor for final questions and answers.
  - Display or provide any necessary logistical information regarding regional pesticide applicator recertification credit requirements.
  - Provide post-meeting survey.

Supplemental Information / Details

Optional Pre-Meeting Survey

Provide a survey questionnaire and require attendees to complete the information as a prerequisite for joining the meeting. Survey questions / information could include:

- Of the grape diseases listed below, which do you encounter most frequently: [Single Choice, Or Rank]
  - Powdery Mildew
  - Downy Mildew
  - Phomopsis cane and leaf spot
  - Botrytis bunch rot
- Of the grape diseases listed below, which do you feel you know the least about? [Single Choice, or Rank Options]
  - Powdery Mildew
  - Downy Mildew
  - Phomopsis cane and leaf spot
  - Botrytis bunch rot
- List the top 3 grapevine varieties that you grow. (Open-ended text)
- How would you generally classify your typical in-season climate conditions? (Select 1)
  - Hot and dry
  - Moderate temperatures and Dry
  - Moderate temperatures and Wet
  - Mild temperatures and Dry
  - Mild temperatures and Wet
- How would you generally classify your _____ disease pressure? (Select 1) (Powdery Mildew, Downy Mildew, Phomopsis cane and leaf spot, Botrytis bunch rot).
  - Not Applicable
  - High
  - Moderate
  - Low
- What is your first choice approach in disease management? (Select 1)
  - Chemical management through fungicide programs

  - Organic management through fungicide programs
  - Cultural management through non-chemical means
- Are there any cultural or non-chemical approaches you are interested in trying in your vineyard? (open text question).

In-Meeting (Webinar) Test-Poll

If desired, offer a test-poll prior to the pop-quiz to help train users on answering questions within the webinar platform

- How frequently do you encounter the following grape diseases? [ranked choice] (Frequently, Occasionally, Never)
  - Powdery Mildew
  - Downy Mildew
  - Phomopsis cane and leaf spot
  - Botrytis bunch rot
- What is your level of knowledge for each of the following grape diseases? [ranked choice] (Low, Medium, High)
  - Powdery Mildew
  - Downy Mildew
  - Phomopsis cane and leaf spot
  - Botrytis bunch rot
- If you use any type of cultural disease management practices in your vineyard, what are they? (select all that apply)
  - Does Not apply – I do not use cultural disease management approaches
  - Growing modern, disease-resistant varieties (aka disease resistant hybrids)
  - Shoot thinning
  - Fruit-zone leaf removal (any timing)
  - Canopy training
  - Irrigation management (such as deficit irrigation)

Post-Meeting Survey

Provide a post-webinar survey to determine short-term impact. It might also be helpful to require participants to complete this survey before they can access a link or other information related to getting their pesticide applicator recertification credits. Potential questions include:

- Please list 3 things you have learned from this webinar. (open text question)
- Please list 2 things you might change for the upcoming growing season, whether it's on-farm practices or changes in consulting approaches. (open text question)
- Did you have any questions regarding the topics covered in this webinar that remain unanswered? (open text question)
- How likely are you to recommend this webinar, or future potential FRAME webinars to colleagues or clients? (select 1)
  - Very likely
  - Potentially, with reservation
  - Not likely

- Any suggestions for improving this specific-topic webinar? (open text question)