Vineyard Disease Management – A Checklist

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Follow the steps in this checklist to develop and optimize your disease management programs.

Pre-Season Checklist

Sprayer		
☐	**Pre-season maintenance**	Check that all sprayer components are properly functioning. This includes pressure gauges, nozzles, belts, pumps, etc.
☐	**Pre-season calibration**	○ Calibrate the sprayer. Determine spray volume output based on the number of nozzles used, pressure in the lines, and speed of the tractor. ○ Calibrate the sprayer for each block – vine and row spacing, and canopy training can impact spray output. ○ Record the tractor operating speeds (throttles and gear), engine RPM, and number of nozzles needed for each spray application volume or vineyard block. Make those easily accessible to the spray applicator.
Spray Program Preparation-record the following information:		
☐	**Anticipated diseases**	○ Which diseases did you struggle with last year? ○ What weather patterns drive the severity for each disease?
☐	**Timing of key vine phenological stages**	○ Use historical records or models to identify key vine development stages and their tentative timing (calendar dates) in-season. ○ Identify which diseases are the main threat at each vine development stage; note that not all development stages will be at risk for all your identified diseases.
☐	**Timing of key management practices**	○ Shoot thinning ○ Shoot tucking / canopy wire adjustments ○ Fruit-zone leaf removal ○ Fruit thinning ○ Hedging
☐	**Potential fungicides**	○ Record active ingredients, FRAC code, targeted diseases, rates, resistance issues, product or application restrictions or requirements. ○ Consider factors such as: → Do any products provide control of multiple diseases? → Are there known pathogen resistance issues for the products you have selected? → Do any of the products pose a risk of phytotoxicity due to cultivar or certain environmental conditions or when applied in combination with other products? → How does your disease program overlap with insecticide or foliar nutrition programs? Do you need to make adjustments? → Are there other considerations, such as re-entry intervals or the timing of cultural practices?

Spray Program Design		
☐	**Build your baseline management calendar, and include:**	○ Key windows for important vine development stages using historical phenology data. ○ Key periods of risk for your vineyard's diseases. ○ Anticipated timing of cultural management practices. ○ Fungicides applied at intervals that will provide continuous control of the select diseases and disease pressure that you have identified.
☐	**Identify areas of the management calendar that may be adjusted**	Adjust management timing based on "high pressure" and "low pressure" seasons; this may include actions such as stretching or reducing spray intervals within the label constraints, substituting products based on disease risk, and accelerating or delaying canopy management activities.
☐	**Do not use fungicides with the same high-risk FRAC group back-to-back**	These groups include: 1, 2, 3, 4, 7, 9, 11, 12, 13, 17, 33, 40, 50, and U6.
☐	**Consult**	Consult with local extension professionals, consultants or agronomists for current information on the status of fungicide resistance for the products you have selected.

In-Season Checklist

Sprayer		
☐	**In-season maintenance**	○ Check that all sprayer components are properly functioning. ○ This includes pressure gauges, nozzles, belts, pumps, etc.
☐	**In-season calibration**	○ Calibrate the sprayer. Determine spray volume output, based on the number of nozzles used, pressure in the lines, speed of the tractor, and vine spacing in each block. ○ Record the tractor operating speed (throttles and gear), engine RPM, and number of nozzles needed for each spray application volume or vineyard block. Make these easily accessible to the spray applicator.
Spray Program		
☐	**Adapt**	○ Adjust your estimated phenology progression to match the current season's observations. ○ Adjust plan if there is significant deviation in phenological development, forecast extremes or other factors affecting disease management. Identify which diseases are the main threat at each development stage; note that not all development stages will be at risk for all identified diseases.

Resources

Check with local university extension professionals for your state's (or region's) annual grape pest management guides. These often contain key information on pests, products, and sprayer calibration.

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