Pre-Harvest Disease Management

Many Maryland vineyards are approaching or already within 30 days of the anticipated harvest date for early wine grape varieties. During this window, growers face the challenge of managing several fungal diseases, including powdery mildew (PM), downy mildew (DM), Botrytis bunch rot, and other late-season bunch rots, without using fungicides that could impair wine quality. Maryland growers may refer to Extension Fact Sheet 848, Guidelines for Developing an Effective Fungicide Spray Program for Wine Grapes in Maryland for specific management recommendations.

General Guidelines

- Avoid applying fungicides containing sulfur, copper, and captan within 30–45 days of your anticipated harvest date. Sulfur and copper residues impart off-tastes to wine, and captan residues may delay fermentation.
- In managing PM and DM, your objective should be to maintain a functional canopy for long enough to fully ripen your grapes.
  - On white varieties, you may be able to stop spraying for PM and DM before harvest and tolerate some foliar mildew without harming fruit.
  - On red varieties that need to hang on the vine to mature, you may need to apply fungicides until quite late in the season to preserve the canopy.
- Be vigilant in scouting for late-season bunch rots, which often appear suddenly and close to fruit maturity, weeks after black rot and Phomopsis fruit rot.

Powdery Mildew

- Protect fruit until they reach 8° Brix, when they become immune to PM infection. Thereafter, protect the canopy as long as needed for ripening fruit.
- Late PM fungicides that will not affect wine quality include Quintec, Endura or Pristine (boscalid component), stylet oil, and the potassium salts (Armicarb, Kaligreen, Nutrol).

The sterol-inhibiting (SI) fungicides (Nova/Rally, Elite, Procure) may still be useful where PM has not lost sensitivity to SIs.

- If you have active PM, use only stylet oil or a potassium salt product. Use stylet oil once, and only on severe infections. Do not apply oil within 14 days of either sulfur or captan.

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Downy Mildew

- For late DM, use a phosphorous acid product (phosphite) such as Phostrol, ProPhyt, Topaz, etc. Because of strobilurin-resistant DM strains, Pristine alone may no longer be effective on DM in Maryland vineyards.

Botrytis Bunch Rot

- Preharvest can be a critical time for Botrytis control on bunch rot-prone varieties, especially in wet seasons. Latent infections that occurred at bloom become active again, and berries become increasingly susceptible to infection after veraison. (See Joe Fiola’s Timely Viticulture on Botrytis).
- Effective fungicides include Vangard/Scala, Elevate, Pristine (at the 18.5–23 oz/ac rate) and Endura (at the 8 oz/ac rate).
- Meteor is another trade name for Iprodione (Iprodione 4L, Rovral). Iprodione is an older fungicide that lost effectiveness due to overuse but can “recover.” Make one spray per season if it has not been used in your vineyard in at least three years.

Late-Season Bunch Rots

- Watch for late-season rots as fruit ripen, especially if there has been hail, bird damage, insect feeding, or PM on fruit. The fungi that cause ripe rot, bitter rot, and Macrophoma rot, can enter intact berries, however.
  - Be careful not to injure ripening fruit while spraying or mowing.
  - Control insects that feed on fruit as part of an IPM program.
- If ripe rot, bitter rot, or Macrophoma rot appear during the preharvest window, protect healthy fruit with a strobilurin fungicide (Pristine or Abound).
- Sour rot is caused by a complex of fungi, bacteria, and insects that can gain entry only to wounded fruit. Because of the bacterial component, fungicides are not effective against sour rot.

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