

Wine Grape Diseases



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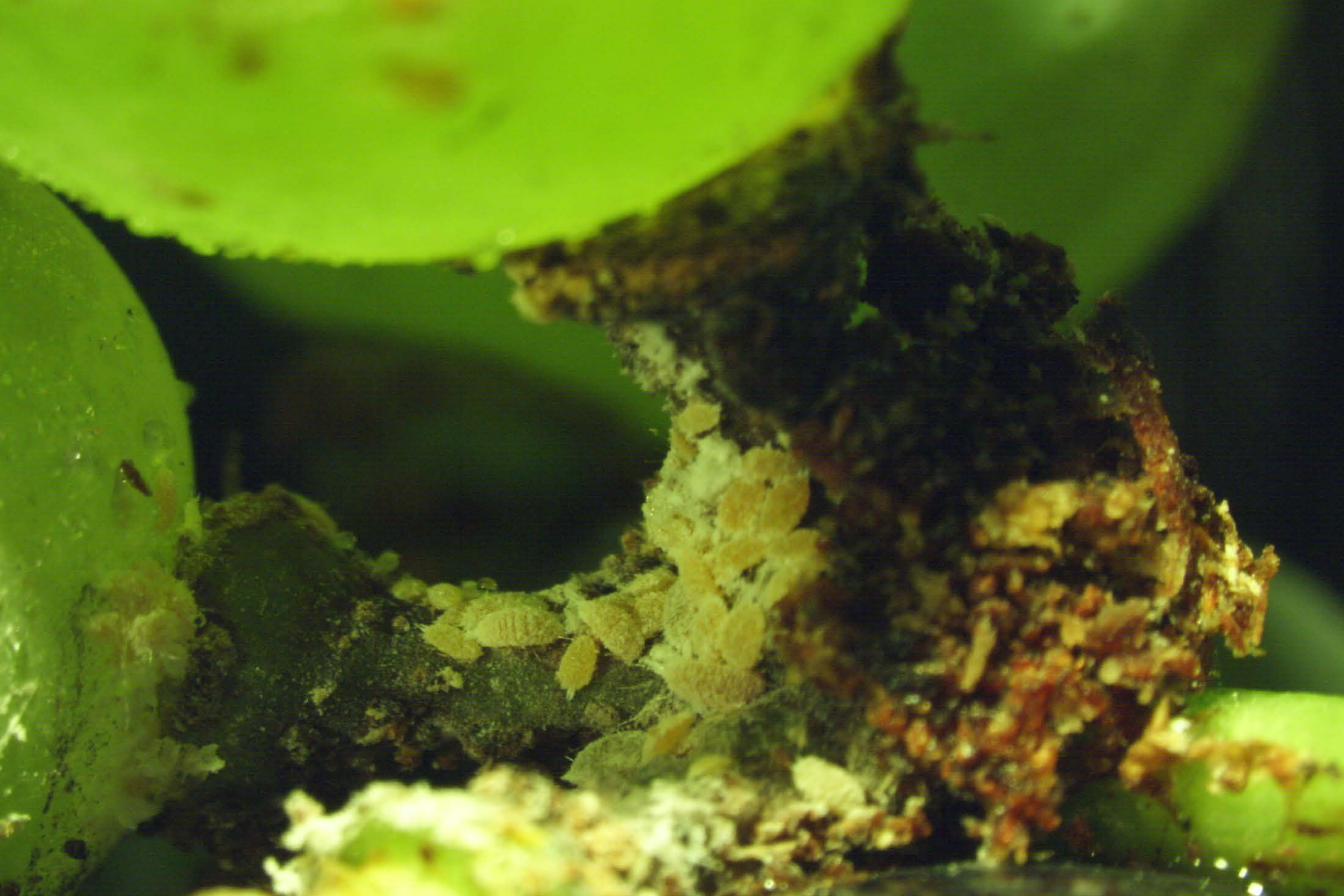
Cabernet Sauvignon
Cabernet Franc
Merlot
Riesling
Chardonnay
Seyval Blanc
Chambourcin
Cab Franc
Viognier
Malbec

Chardonnay
Sangiovese
Tannat
Pinot Blanc
Vidal
Pinot Noir
Gewurztraminer
Trebbiano
Pinot Gris
Primitivo

* **Suwannee**
* **Black Spanish / Lenoir**
* **Blanc Du Bois**
* **Norton / Cynthiana**
* **Muscadines**







“Pierce’s disease is a principal factor limiting production of both *V. labrusca* and *V. vinifera* grapes in the Gulf Coastal Plains of the United States.”

Goheen and Hopkins, Compendium of Grape Diseases (1998).





27% *X. fastidiosa*
positive



Oncometopia orbona

33% *X. fastidiosa*
positive



Bespeckled leafhopper;
Paraphlepsius irroratus

28% *X. fastidiosa*
positive



Graphocephala versuta



Agallia constricta



Primary Southeastern Bunch Grape Diseases

- ❖ Black Rot (*Guignardia bidwellii*)
- ❖ Downy Mildew (*Plasmopara viticola*)
- ❖ Powdery Mildew (*Uncinula necator*)
- ❖ Botrytis Bunch Rot (*Botrytis cinerea*)
- ❖ Phomopsis Cane and Leaf Spot (*Phomopsis viticola*)
- ❖ Anthracnose or Bird's-eye Rot (*Elsinoë ampelina*)
- ❖ Bitter Rot (*Melanconium fuligineum*)
- ❖ Ripe Rot (*Colletotrichum gloeosporioedes*)
- ❖ Sour Rot

Principal Southeastern Foliar/Fruit Diseases

	Relative importance	
	Fruit	Foliage
Downy mildew	++	++++
Powdery mildew	++	++++
Black rot	++++	++
Phomopsis	+++	++
Botrytis	++++	-
Bitter rot	++++	++
Ripe rot	++++	-
Anthracnose or Bird's Eye Rot	++++	+++
Sour rot	++++	-

Harrison and Sutton; NC State

Anthracnose (budbreak to bloom)

Downy Mildew (immediate pre-bloom to senescence)

Phomopsis (budbreak to fruit set)

Black Rot (immediate pre-bloom to veraison)

Botrytis (late season if weather conducive)

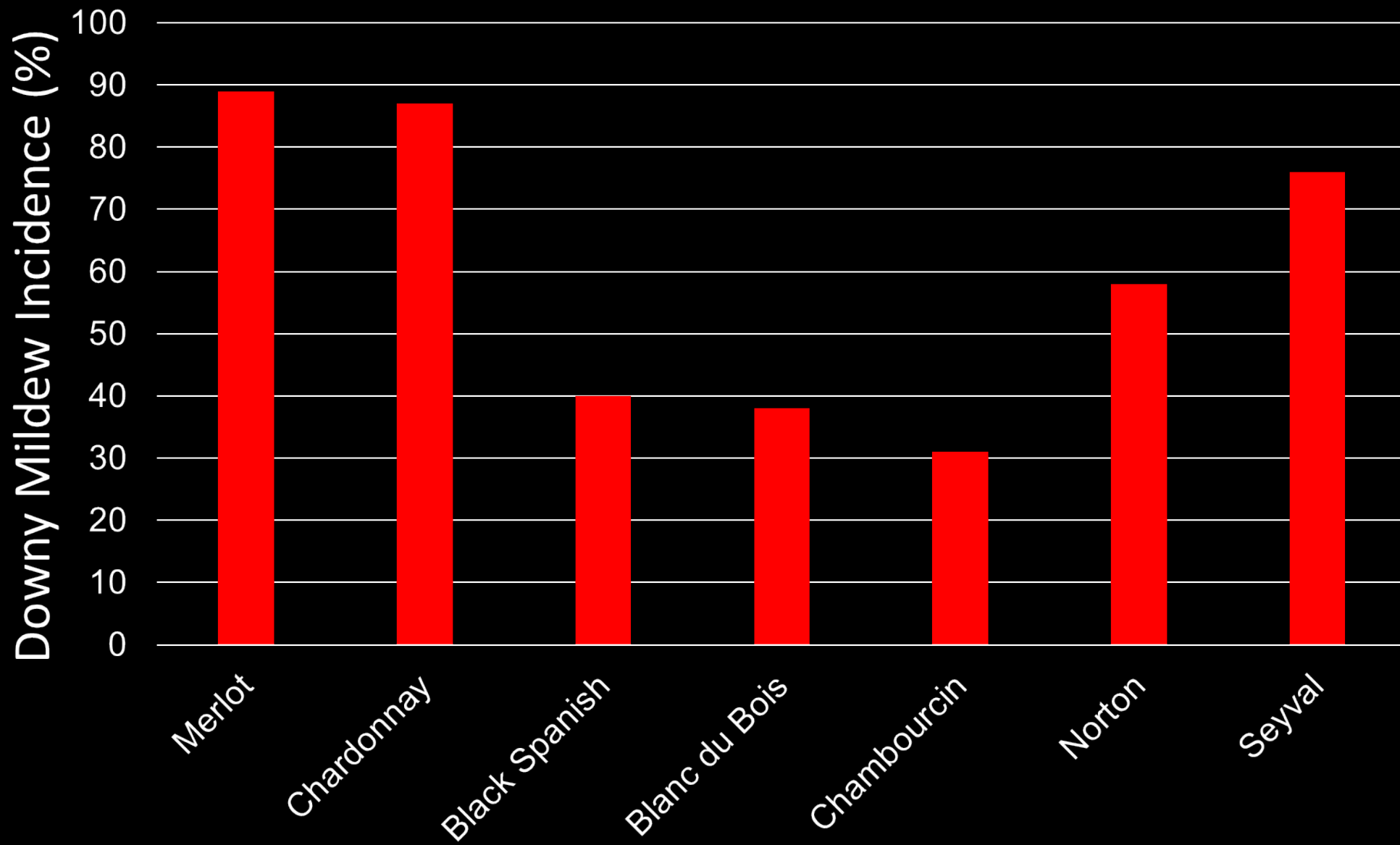
Powdery mildew (bloom)

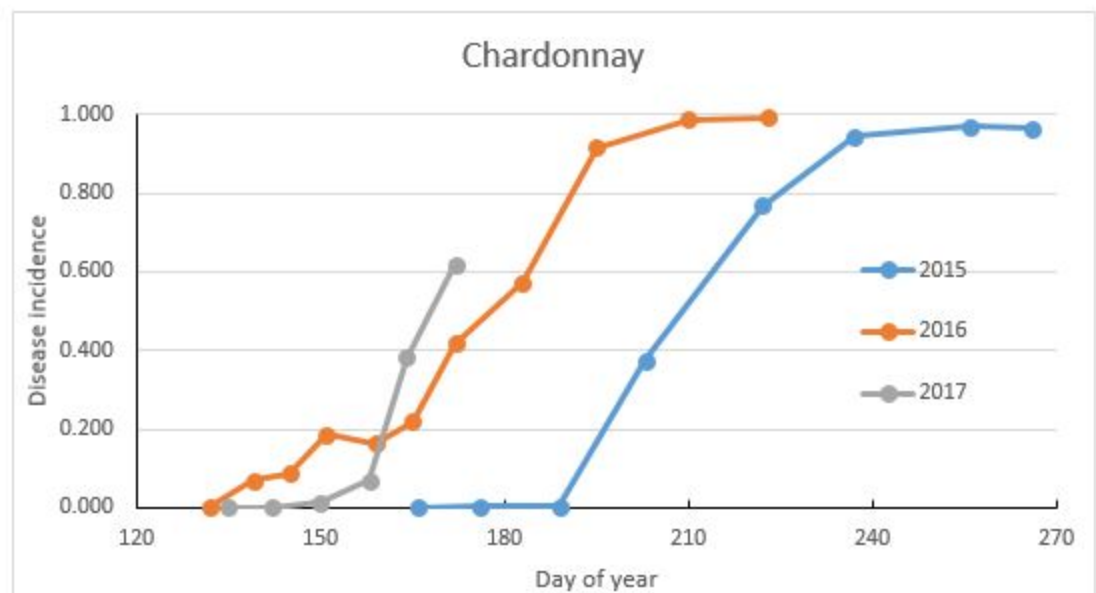
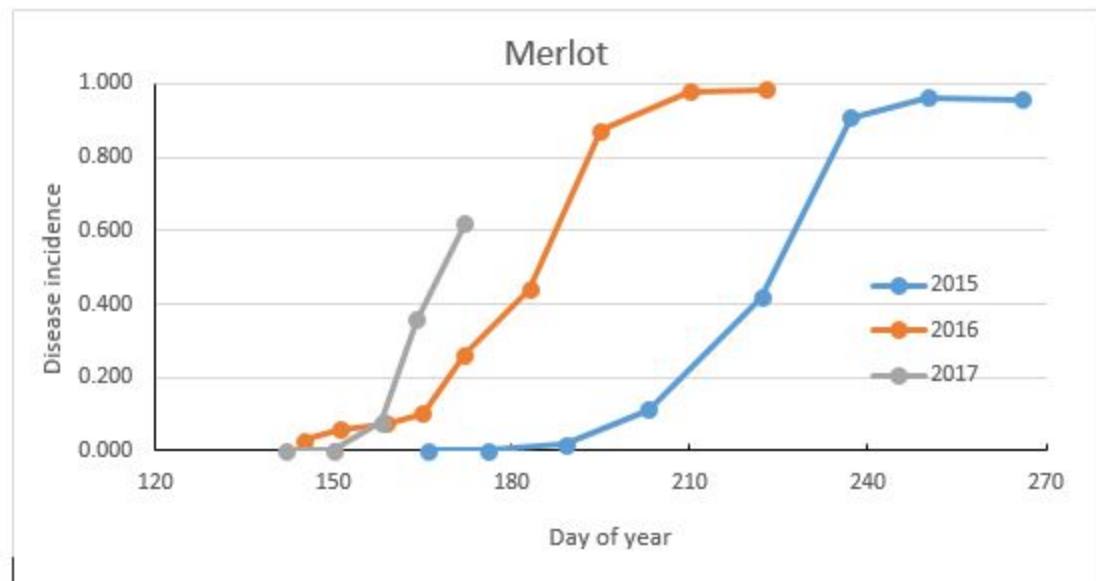
Non-specific bunch rots







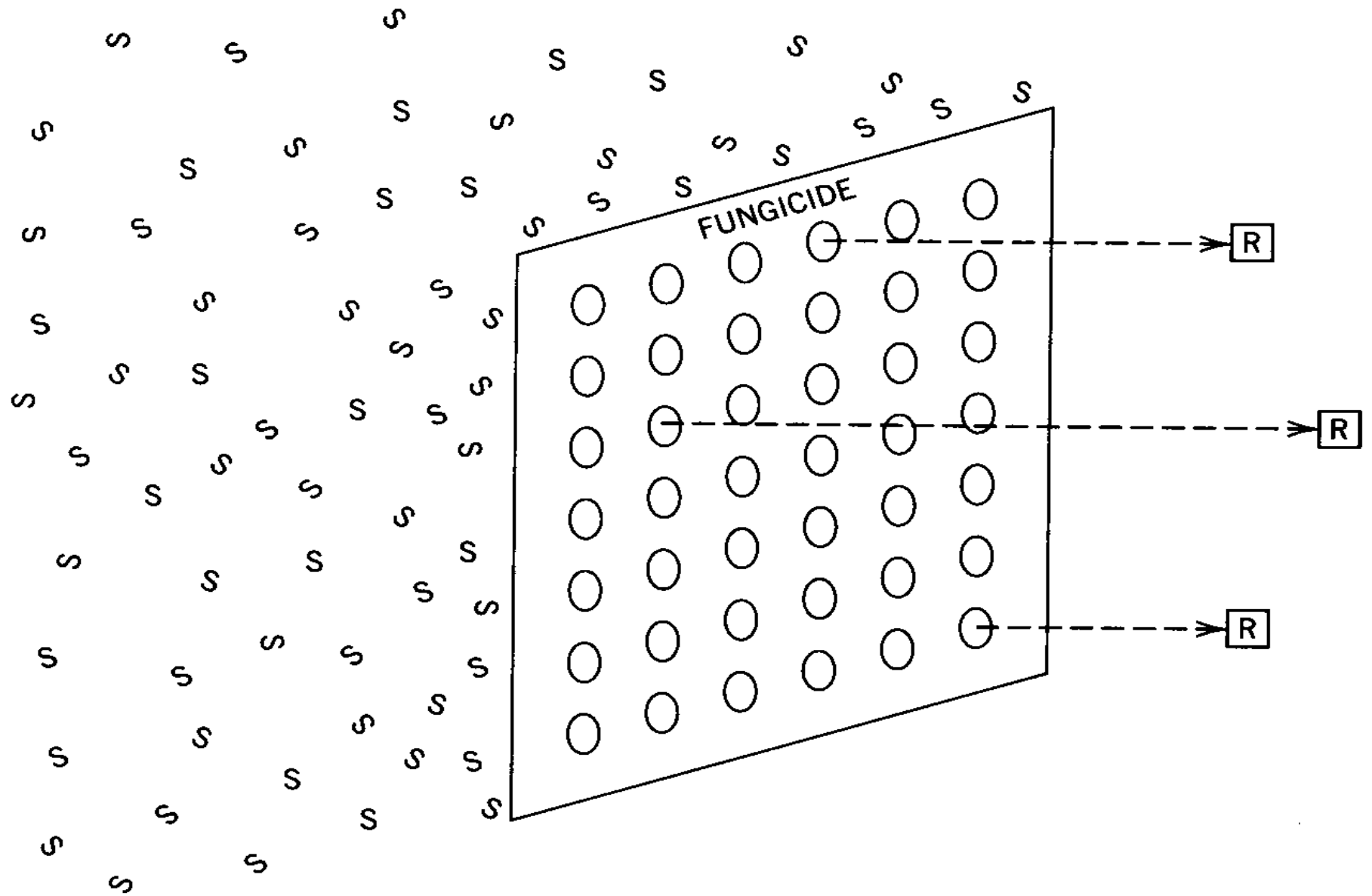




Fungicides	FRAC Code	Efficacy
Ametocradin + dimethomorph (Zampro)	40 + 45	+++++
Azoxystrobin (Abound)	11	+++++ (Resistance ??? + Captan)
Boscalid + Pyraclostrobin (Pristine)	7 + 11	+++++ (Resistance ??? + Captan)
Captan	M4	++++ (++) Contact protectant; mix with Phosphonates
Cyazofamid (Ranman)	21	++++ Combine wth Phosphonates
Famoxadone + Cymoxanil (Tanos)	11 + 27	++++ (++) Use with Captan or Mancozeb (required)
Mancozeb	M3	+++++ (+++++) Contact protectant
Mandipropamid (Revus)	40	+++++
Mandipropamid + Difenoconazole (Revus Top)	3 + 40	+++++
Mefanoxam + Mancozeb (Ridomil Gold MZ)	4 + M3	+++++
Phosphonates (Prophyt, etc.)	33	+++++ (mix with Captan)
Ziram	M3	++++ Contact protectant

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R = resistant S = sensitive

Principles of Resistance Management

- ❖ Alternating sprays with fungicides from different classes (different modes of action) is an important means of resistance management.
- ❖ Tank-mixing of different fungicides is also an acceptable method of resistance management, and both methods are employed.
- ❖ Many fungicides are limited to a set number of applications per year in order to improve their long-term survival. Follow the label recommendations.



Cluster

- Obtain cotton swabs individually wrapped
- Collect 10 individual clusters with FRESH gray mold lesions
- PLEASE: **Do not collect from old clusters or discarded fruit on the ground**
- Use a fresh cotton swab for each berry and carefully rub one side of the swab on the diseased portion of each grape without touching the fruit itself
- Return the swab to its individual package or place bulk swabs into plastic bag



Yes



NO

Bitter Rot

(Melanconium fuligineum)

- ❖ Overwinters on canes and mummified fruit.
- ❖ Can infect all green vine parts, to include the pedicels.
- ❖ Fruit is infected at maturity.
- ❖ Fungicides can be applied late-season and at preharvest to control fruit rots.



Ripe Rot

(Colletotrichum gloeosporioides)

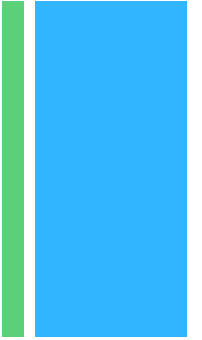
- ❖ Overwinters on canes, dormant vines and mummies.
- ❖ Fruit can become infected anytime during fruit development, but the infection is quiescent until fruit maturation.
- ❖ For control, fungicides should be applied from bloom until preharvest.



Sour Rot

- ❖ Caused by a multitude of organisms.
- ❖ Infections result from wounds (insects, birds, mechanical damage, etc.) or other diseases.
- ❖ No chemical methods are acceptable, and control must be achieved through reduction of damage.





“If a grower knows that they regularly see sour rot in a particular variety, I recommend beginning to spray at approximately 15 Brix using OxiDate and MustangMaxx weekly until harvest.”

