



Have You Developed a Fungicide Resistance Management Program?

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Fungicide resistance has developed in the powdery mildew and downy mildew fungal populations in many grape growing regions to the point where the use of sterol inhibiting fungicides or the strobilurin fungicides no longer provide acceptable management of one or both of these diseases.

It is not a question of 'if' fungicide resistance will develop but 'when'.

Let us learn from the experience of other grape regions and use the fungicides that have a high risk for resistance in ways that will extend their 'effective life' as long into the future as possible.

The classes/families/groups of fungicides that are considered to have a high risk for resistance development include the sterol-inhibiting fungicides such as Rally, Elite, Procure, Rubigan, Vintage; strobilurin fungicides such as Sovran, Flint, Abound; anilinopyridine fungicides such as Scala Vanguard; phenylamide fungicides which include Ridomil products; and dicarboximide fungicides such as Roval. In general, if resistance develops in a pathogen population to one of the fungicides within the fungicide class/group, the other fungicides within that class/group will also not be effective.

There are some basic rules for extending the 'effective life' of high risk fungicides. These include:

(1) Limit their use. Check the label for the maximum times they can be applied and try to use less than that number. For example, sterol-inhibiting fungicides should only be used a maximum of 3 times per year; strobilurin fungicides should be applied no more than 2 times a year. Note that a potential "benchmark" to keep in mind is that after 15 to 20 applications of a strobilurin fungicide, powdery mildew resistance can be expected. Downy mildew resistance is also a risk with repeated use of strobilurins. Use high risk fungicides when you get the biggest "bang for the buck" at critical disease management times and when a lower risk fungicide will not do the job.

(2) Use lower risk fungicides where appropriate. If using high risk fungicides, alternate with those that have lower risk of fungicide resistance. For example, sulfur is a low risk fungicide for powdery mildew management on sulfur-tolerant varieties; mancozeb and captan are low risk fungicides effective against downy mildew. Note: Phosphorous acid products (Phostrol, Prophyt) are considered to have a moderate risk for downy mildew resistance development.

