

Pest and disease management in vineyards under drought conditions

Alison MacGregor, October 2009



It makes sense that people are thinking about cutting costs, because this season carries a very high degree of uncertainty for many growers.

The spray program is one vineyard activity where you might be thinking of making savings.

Are you considering cutting sprays out for any of the following reasons?

- To save time (maybe you are working off-farm now).
- To save on chemical costs.
- To save water because water is scarce.
- You have turned the water off and the vines are not producing.
- The crop is not under a contract, so you can't justify spending anything on it.
- You haven't seen black spot or Phomopsis for years, so you can't justify spraying for them.
- You haven't had the conditions for downy mildew.

If you said *YES* to any of these, or even because of other reasons, then make sure you are aware of ALL implications of your decision.

Missing preventative sprays for powdery mildew in October and November can mean that the disease will be rampant from late December onwards. So if you are going to reduce sprays against powdery mildew, don't leave out the early ones. On the positive side, early control following by careful monitoring may mean you can leave out sprays after December.

Reducing spray volumes to save water may cause your application to be completely ineffective, unless your machinery is suited to applying a lower volume. A winegrape

vineyard receiving six sprays during the season, at 1000L/ha per spray, is using 0.006 ML/ha in the spray tank (<1%). So don't reduce water volumes per spray, or overall sprays, to save water.

Reducing spray volumes to save fuel and time may have justification, but only if you can be sure that the spray is effective. An ineffective spray is a totally wasted spray. Make sure you spend time configuring your sprayer to make sure the new, low volume settings are effective.

Your annual costs may not change much if you leave out sprays. During the 2006-07 season, Sunraysia wine grape growers are estimated to have spent on average \$7000/hectare in operating and overhead costs¹. Chemicals and fuel together represented only about 10% of this total cost. The greatest costs were in labour and harvest costs, and running a harvester over a diseased and therefore poorly yielding patch is very expensive for little returns.

Abandoned vineyards pose a disease risk to neighbouring vines. Consider the impact on your other productive areas, and on your neighbours vines, if you are not going to spray a patch of vines that you have turned the water off.

The most expensive spray program is the one that fails to control disease or pests.

It is also true that an expensive spray is one that you didn't need in the first place. This season you might consider doing more monitoring before each spray, and find that you can save by avoiding an unnecessary treatment.

Its time to remember all the key messages about pest and disease management. In particular:

- Preventative sprays for powdery mildew, particularly around flowering, are the most important sprays.
- The conditions for a downy mildew primary infection (10:10:24) or secondary infection (warm wet night).
- The importance of optimizing your spray delivery. Get the right nozzle angles, droplet sizes, air/fan speed, driving speed, and water volume. These affect the spray effectiveness.
- A cheap product applied well is better than an expensive one applied too late.
- Get the Four T's right: Timing, Treatment, Target and Technique.

¹ Scholefield Robinson (2008). Capacity Building for Australian Wine Grape Growers. Project Final Report to Wine Grape Growers Australia.