

TECHNOTE

MAXIMISE PROTECTION AGAINST DOWNY MILDEW IN GRAPES

Downright® has proven itself over many years in Australian and overseas vineyards as the fungicide of choice for downy mildew control. As the only Group 40 Fungicide registered in grapes, Downright provides a valuable alternative to products from other fungicide groups for the control of downy mildew.

Downright contains 500g/L dimethomorph and is an ideal fungicide for inclusion in protectant fungicide programs when seasonal conditions favour high disease pressure from downy mildew.

KEY FEATURES

- Superior forward protection and anti-sporulant activity against downy mildew
- The only Group 40 fungicide registered in grapes
- Effective against phenylamide resistant strains of downy mildew (Group 4)
- Easy to pour and handle liquid formulation.

PROTECTANT AND ANTI-SPORULANT ACTIVITY

Foliar applications of Downright provide protectant and anti-sporulant activity for extended protection against downy mildew.

Downright controls germinating spores and early infections of downy mildew by interrupting development of the fungal cell wall, causing them to rupture and die.

In addition, anti-sporulant activity means that Downright can help to prevent further spread of disease after the initial infection, when applied in the early stage of a disease outbreak.

Downright is translocated within the leaf and has locally systemic activity, including translaminar movement.

It is these unique attributes that make it a valuable fungicide for inclusion in downy mildew control programs.

PRIMARY INFECTION

Primary infection of downy mildew will occur if 10:10:24 conditions occur. i.e. 10mm of rain while temperature is 10°C or more over a 24 hour period.

Oilspots will develop most rapidly when weather conditions are warm (20 - 25°C).



Image 1:
The appearance of an oilspot on the leaf



Image 2:
The appearance of sporulation on the underside of an oilspot

SECONDARY INFECTION

Secondary infection of downy mildew will occur during warm nights where the temperature is greater than 13°C, where humidity is greater than 98% and foliage remains wet near dawn for 2 – 3 hours.



Image 3:
Appearance of secondary infection of downy mildew



Image 4:
Appearance of secondary infection on the underside of the leaf

DOWNY MILDEW INFECTION AND CONTROL

Downy mildew (*Plasmopara viticola*) can occur during most seasons, but the severity of the disease depends on weather patterns during spring and early summer periods. Rainfall is essential for disease infection and spread. Should warm wet weather occur downy mildew spreads rapidly. However, disease outbreaks can occur during cool, overcast and moist conditions when the pre-dawn relative humidity is high with extended hours of leaf wetness.

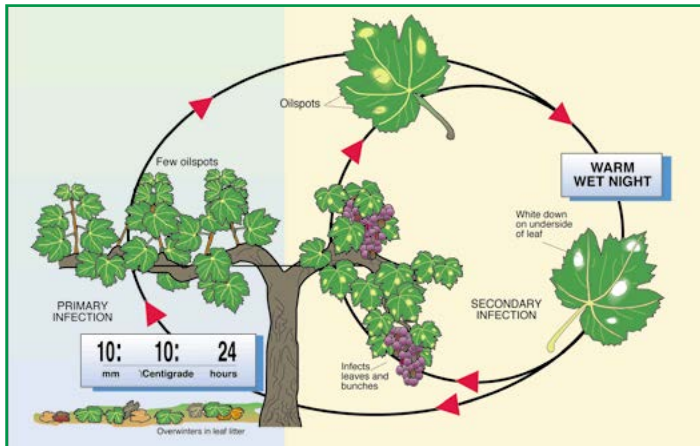


Image 5:
 The life cycle of grapevine downy mildew[†]

DOWNY MILDEW CONTROL PROGRAMS

Vineyard managers have few options available for curative control of downy mildew. For successful control a sound disease control program with protectant fungicides is required. Growers should begin downy mildew protection programs early with Downright and incorporate alternative protectant fungicides, e.g Group M1 copper (Champ Dry Prill WG, Tri-Base Blue[®]), mancozeb (Penncozeb[®] 750DF) or chlorothalonil (Unite[®] 720) into their programs.

TIMING AND APPLICATION

Downright should be applied when conditions favour disease development, but before the disease becomes evident. Apply a maximum of three consecutive Downright sprays 7 - 14 days apart, with the shorter interval used when conditions favour a high risk of infection.

Downright should be used as part of a protectant spray program. It must only be applied in a tank mix with Polyram[®] DF or mancozeb e.g. Penncozeb 750DF. A non-ionic surfactant should be added at label rates.

Downright may be sprayed three times consecutively. Do not apply more than a total of six sprays per season as per CropLife Fungicide Resistance Management guidelines.

For more information on Downright, contact your local Nufarm Area Sales Manager.

nufarm.com.au

The information and recommendations set out in this brochure are no substitute for professional or expert advice and are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. To the maximum extent permitted by law, Nufarm Australia Limited disclaims all warranties of any kind, whether express or implied, including but not limited to any warranty that the information is up-to-date, complete, true, legally compliant, accurate, non-misleading or suitable.

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CROP	DISEASE	RATE
Grapevines	Downy mildew (<i>Plasmopara viticola</i>)	Dilute Spraying 36mL/100L plus Penncozeb 750DF 160g/L or Polyram at 150 - 200g/L plus non-ionic surfactant

WITHHOLDING PERIOD

WINEGRAPES FOR DOMESTIC USE	Do not harvest for 4 weeks after application.
WINEGRAPES GROWN FOR EXPORT	As per AWRI* Guidelines. Refer to http://www.awri.com.au for the latest information on export MRL's or contact your local Nufarm representative.
PRECAUTION DRIED GRAPES	Do not use Downright on grapes that are to be used for dried fruit.