

RIDOMIL GOLD PLUS - Downy Mildew Control



syngenta®

Downy Mildew (*Plasmopara viticola*) is a potentially devastating disease of grape vines in Australia with significant crop losses occurring in a short period of time if the disease is left untreated. Downy Mildew oospores germinate on wet dead leaves where the soil surface temperature is greater than 10°C. These spores over winter in the soil and leaf litter.

Primary infections occur when there is at least 10mm of rainfall with temperature greater than 10° C over a 24 hour period, the spores must be splashed up on to the leaves towards the end of the 24 hour period. It takes 7-10 days for the symptoms of Downy Mildew to be visible on the leaf surface. The length of the Downy Mildew life cycle will depend on temperature. It can be as short as 4 days or as long as 21 days during cooler conditions.

The Downy Mildew pathogen sporulates during warm, humid nights. To sporulate, Downy Mildew requires at least 95-98% relative humidity, temperatures between 10 and 30°C (peak production occurs at 20°C) and at least 4 hours of darkness.

Secondary infection occurs if there are warm, wet nights, the spores develop after 4 hours of darkness when the temperature is 13° C and the relative humidity exceeds 98%, the foliage must also be wet for 2-3 hours. Secondary cycles of infection occur repeatedly throughout the growing season if weather conditions are favourable.

Downy Mildew Oil Spots



Good Downy Mildew control is achieved through a combination of:

- Minimising the amount of over wintering inoculum
- Introducing a protectant fungicide program early in the season
- Canopy management to facilitate airflow and reduce the length of time leaves remain wet
- Canopy management to allow the best coverage of spray applications
- Choice of the best curative fungicide in the event of an Downy Mildew infection
- Timing of the application
- Coverage of the application
- Applying the correct rate

RIDOMIL GOLD® PLUS has long been established as the best fungicide available for the control of Downy Mildew. This is particularly true when seasonal conditions favour the development of this costly disease.

RIDOMIL GOLD PLUS offers protectant, curative and eradicant activity. The Metalaxyl-M is redistributed to new growth within the plant via the plant xylem. Metalaxyl-M which works from within the plant to provide excellent systemic activity against existing and new infections.

It is important to understand that CURATIVE means applied after infection but before visual symptoms (oil spots) appear. Application after the development of symptoms is ERADICANT and never a preferred application timing.

Getting the best from Ridomil Gold Plus

- **Timing - DO NOT stretch spray interval to allow a break in protectant coverage.**
 - If the product suggests a 10-14 day interval stick to this
- **DO NOT apply fungicides curatively in the event of a Downy Mildew infection wherever possible.**
- **Apply RIDOMIL GOLD PLUS early in the season when predictive disease modelling indicates an outbreak may be likely.** During flowering and early berry development it is particularly important to insure that the crop is protected.

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- **When conditions favour disease development, apply TWO CONSECUTIVE SPRAYS OF RIDOMIL GOLD PLUS**

- Apply as soon as conditions indicate the likelihood of disease development or as soon after an infection event as possible. This application should be made well before any oil spots are visible
 - Continue spraying at 7-21 day intervals using fungicides from a different mode of action. This interval should be determined by the climatic conditions at the time. Use the shorter interval under prolonged humid and wet conditions
 - Do not apply more than 2 consecutive applications of RIDOMIL GOLD PLUS (or any group D) or more than four applications per season
 - Refer to the label for full directions
- Good application ensuring thorough canopy coverage.
 - Applying the correct rate to minimise under dosing.

Spray application

It is important to note that Good Coverage does not always equal Dilute Spraying.

Resistance management

- Always follow the resistance management guidelines as set out on the label.

Dilute spraying

- Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy.
- Apply sufficient water to cover the crop to the point of run-off. Avoiding excessive run-off.
- **Point of run-off: The amount of water required to wet the plant to the point just before the spray starts to run-off plant surfaces, eg the tips of leaves etc.**
- Industry guidelines, expert advice and historical spray records are a good starting point for determining water volumes required.
 - However, the required water volume should always be finally determined by:
 - ◆ Applying different test volumes
 - ◆ Using different settings on the sprayer
- Add the amount of product specified in the Direction for Use table for each 100L of water.
- Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed as the crop grows.

Dilute Spraying Rates - RIDOMIL GOLD PLUS (always follow the full label directions)

Before flowering: Vic, TAS, SA, WA, NSW (Riverina-MIA)

- Before flowering, apply at 150-225g per 100L of water. Apply in a minimum of 500L /ha. Apply to the point of runoff.

After flowering: Vic, TAS, SA, WA, NSW (Riverina-MIA)

- After flowering, apply at 225g per 100L of water. Apply in a minimum of 1000L/ha when vines are in full foliage. Apply to the point of runoff.

Before flowering: QLD, NSW (except Riverina-MIA)

- Before flowering, apply at 225g per 100L of water. Apply in a minimum of 500L /ha. Apply to the point of runoff.

After flowering: QLD, NSW (except Riverina-MIA)

- After flowering, apply at 225g per 100L of water. Apply in a minimum of 1000L/ha when vines are in full foliage. Apply to the point of runoff.

Concentrate Spraying

- Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach point of run-off) and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.
- Determine an appropriate dilute spray volume (see the dilute section) for the crop canopy.
- This is needed to calculate the concentrate mixing rate.
- The mixing rate for concentrate spraying can then be calculated using the formula above right.

Calculation

1. Dilute spray volume as determined (eg 2000L/ha)
2. Your chosen concentrate spray volume (eg 500L/ha)
3. For the above example, the concentration factor is calculated as $2000L \div 500L = 4$
4. The dilute rate is 225g/100L, then the concentrate rate becomes 4×225 , which = 900g/100L of concentrate spraying at 500L/ha.

- The chosen spray volume, amount of product per 100L of water, the sprayer set up and operation may need to be changed as the crop grows.
- For further information on concentrate spraying, users are advised to consult relevant industry guidelines.
- Undertake appropriate competency training and follow industry best practices.
- Refer to the label for complete application directions.



Ridomil Gold[®]
Plus

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