Downy Mildew in Onions

- Downy Mildew (Peronospora destructor) first appears on leaves as pale green, elongated patches, which develop a furry greyish-violet growth containing spores and spore-producing structures.
- Downy Mildew favours cool to warm, humid or wet conditions. Outbreaks commonly occur when cool, overcast conditions prevail and when the relative humidity pre-dawn is greater than 95%, with 3 to 5 hours of leaf wetness and overnight temperatures of between 4°C and 24°C.
- The optimum daytime temperatures for disease outbreak are between 10°C and 13°C.

Mode of Action

**SPHINX®** is a suspension concentrate containing 500 g/L dimethomorph, a Group 40 fungicide. Dimethomorph is the only member of this group of fungicides registered for use in Onions in Australia, providing an alternative to products from other groups and a valuable Resistance Management tool for the control of Downy Mildew. Importantly, **SPHINX®** also controls metalaxyl resistant strains of Downy Mildew.

When to Use **SPHINX®**

- **SPHINX®** is applied as a foliar spray and must always be used in a tank-mix combination with either mancozeb or metiram (Polyram® DF)¹
- These mixing partners assist in disease resistance management and extend the spectrum of disease control²
- When applied in preventative applications, plant tissue is protected before disease has an opportunity to affect the plant cells
- The curative activity of dimethomorph is limited, and mancozeb and metiram are protectant fungicides only
- **SPHINX®** acts against Peronospora destructor by disrupting the cell wall formation in all stages of its life cycle and also has anti-sporulation activity
- Dimethomorph rapidly penetrates the cuticle of the plants to be protected and is then distributed throughout the leaf.

**SPHINX®** is available in an easy to measure and pour liquid formulation in 1 L and 5 L packs.

¹ Downy mildew is controlled by **SPHINX®** and either mancozeb or Polyram DF in the tank mix.
² Purple blotch is controlled by the protectant activity of either mancozeb or Polyram DF.
Application Timing

When using protectant fungicides, maintaining a regular protectant spray program is important and thorough coverage is essential as fungal pathogens will penetrate unprotected plant areas.

- Spray intervals depend on the residual properties of the fungicide, plant growth, weather and overhead irrigation events. SPHINX®, together with its tank mixture partner, must be applied prior to infection taking place.
- New plant tissue is not protected after application.
- Apply a maximum of 2 consecutive sprays of SPHINX®, 7 to 10 days apart. The shorter interval should be used when conditions favouring the disease create a higher risk.
- A maximum of 4 applications of Group 40 Fungicides (including SPHINX® or Acrobat*) per crop is permitted under CropLife Australia Fungicide Resistance Management Review Group Guidelines.

Compatibility

SPHINX® can be tank-mixed with most commonly used pesticides, however, avoid mixing with strongly alkaline or acidic materials.

SPHINX® Mixing Order

1. Fill the spray tank to at least 70% full with suitable water
   Commence agitation
2. Add the correct amount of any Wettable Powders (WP) or Water Dispersible Granules (WG) including mancozeb or Polymar DF
3. Ensure products are fully dispersed before proceeding
4. Add the required volume of Flowable Liquids (FL) or Suspension Concentrates (SC) including SPHINX®
5. Add the required volume of any Emulsifiable Concentrates (EC)
6. Add remainder of the water with agitation running
7. Add non-ionic wetting agent and fill the tank
8. Continue agitation during spray application.

A number of APVMA Minor Use Permits are current for SPHINX® for usage in Spring Shallots & Onions including these listed below: PER 7935 Leafy Lettuce (field grown only) for the control of Downy Mildew (Bremia lactucae)

Always refer to permit before use. All minor permits have an expiry date. Always check permit validity before use at www.apvma.gov.au

Always check labels of products to be used in tank mixes for manufacturer recommendation/s. Seek competent advice or perform a jar test if unsure before proceeding. The physical and chemical properties of various manufacturer’s formulations may differ. Recommendations for use, handling, storage and disposal of products may change over time.

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