



# User guide

Prevents, cures and eradicates powdery mildew in grapes.

## IMPULSE®

Impulse, a specialist powdery mildew fungicide is an essential component of any grape powdery mildew control programme.

### The biological properties of Impulse

- Highly systemic with protectant, curative and eradicator activity
- Impulse has a favourable distribution pattern
  - Rapid and even distribution in leaves
  - No accumulation of Impulse in the leaf tips
- Impulse has a very fast uptake into plant tissue and excellent rainfastness
- Good crop tolerance characteristics at all growth stages in grapes
- Activity is not weather independent – equally effective in humid or dry conditions
- Impulse has no influence on fermentation and taste of wine
- Impulse has a low toxicity and a favourable environmental profile
- Impulse is safe to beneficials and bees and is IPM compatible

### An excellent tool for resistance management programmes

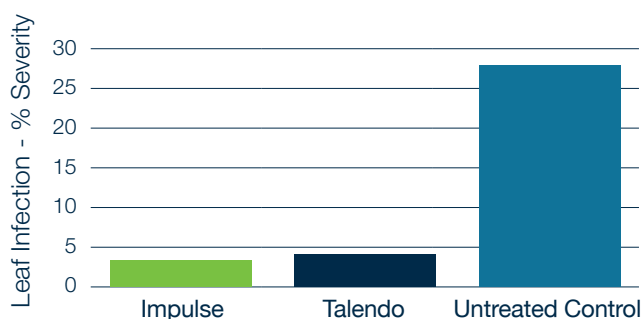
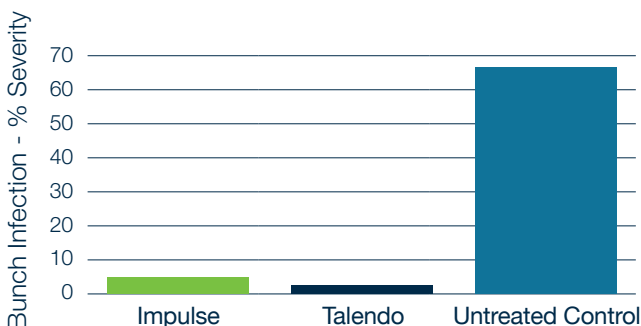
The mode of action of Impulse is as a sterol biosynthesis inhibitor (SBI). The active ingredient in Impulse, spiroxamine, is in the amine chemical group (SBI: Class II, FRAC code 5).

- DMIs (e.g. Systhane\*, Topas®) and amine fungicides are SBI fungicides (SBI: Class I, FRAC code 3)
- BUT they are in a different subgroup as they have different modes of action
- There is no cross resistance between DMIs and amines

#### Additionally Impulse:

- Acts on multiple (four) different sites within the sterol biosynthesis pathway
- Is classified by FRAC as a low to medium risk for resistance development
- Extensive global testing (for 15+ years) has shown no shift in grape powdery mildew sensitivity to Impulse

### GRAPE – POWDERY MILDEW TRIAL, MARLBOROUGH 2015-16



Four applications – pre-flower, 80% capfall, pea size and pre-bunch closure. Assessed 72 days after last application.





## USE RECOMMENDATIONS IN GRAPES

<b>DISEASE</b>	Powdery mildew ( <i>Erysiphe necator</i> ).
<b>RATE</b>	60 mL/100L for high volume dilute spraying to the point of run off. For concentrate spraying, adjust the rates accordingly, ensuring the same total amount of product is applied by either dilute or concentrate spraying. Apply by ground based methods only.
<b>NUMBER OF APPLICATIONS</b>	No more than two applications per season.
<b>SPRAY TIMING</b>	Impulse may be applied from pre-flowering through to pre-bunch closure. Under low to moderate disease pressure, make the first application in the period from pre-flowering up to the end of capfall. Under high pressure make the first application at pre-flower. Monitor the crop to determine whether a second application is necessary.
<b>SPRAY INTERVAL</b>	Ensure a minimum application interval of 28 days.
<b>WITHHOLDING PERIOD</b>	56 days. Do not apply after pre-bunch closure. Consult your winery for their PHI requirements.
<b>COMPATIBILITY</b>	Impulse is compatible with commonly used insecticides and fungicides. Do not use with fluazinam, PRODUCTS CONTAINING FLUAZINAM and alkaline materials.
<b>ADJUVANTS</b>	None required.
<b>PACK SIZE</b>	5 litre plastic bottle, Agrecovery compatible.



Powdery mildew – bunch infection.



Powdery mildew – leaf infection.

## REGIONAL BUSINESS MANAGERS & MARKET DEVELOPMENT AGRONOMIST

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