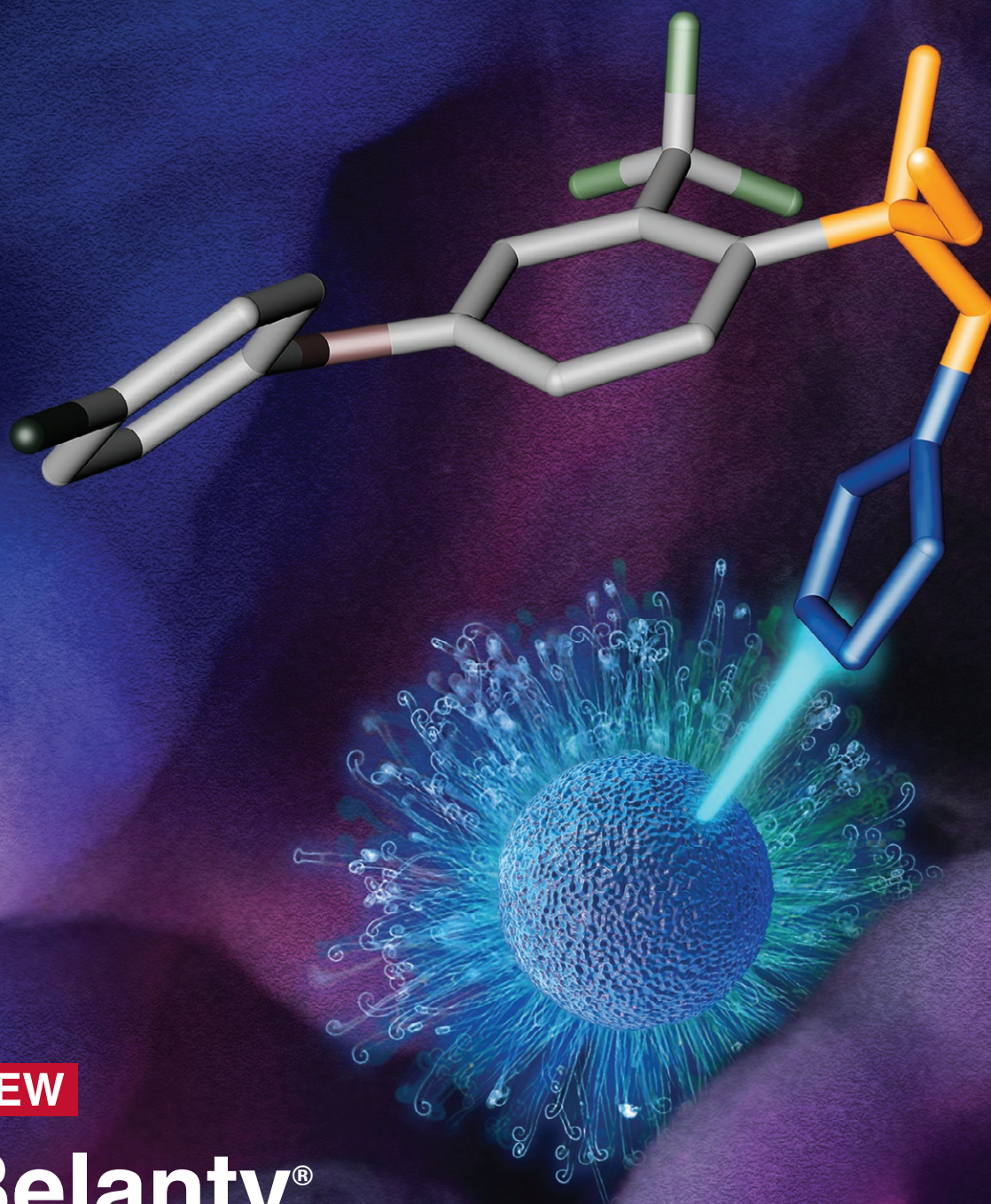


 **BASF**

We create chemistry

## Belanty Technical guide



**NEW**

**Belanty**<sup>®</sup>  
Fungicide



# Improved residue profile without compromising control

New Belanty® takes the DMI class of chemistry growers already know and trust to the next level, setting a new benchmark for flexible control of powdery mildew in grapes and black spot in apples.

Belanty is powered by a unique, shape-shifting molecule – the first of its type – that provides rapid uptake and delivers lasting residual protection. Reduced risk residues have become a high priority in horticultural crop production and Belanty will help growers maintain the use of DMI chemistry without compromising control.

That approved residue profile is reflected in the setting of MRLs that allow Australian growers to export Belanty-treated fruit and wine to the European Union.

## What you need to know

### About Belanty

<b>Mode of action</b>	Group 3 – DMIs (demethylation inhibitors) New 'isopropanol-azole' molecule type
<b>Formulation</b>	Suspension Concentrate (SC)
<b>Adjuvant</b>	Not required
<b>Compatibility</b>	Belanty is compatible with most commonly used fungicides and insecticides used on apple and grape crops. It is not compatible with Dithane* Rainshield*, Switch*, and Bravo* Weather Stik*.
<b>Rainfastness</b>	1 hour rainfastness
<b>IPM fit</b>	Belanty is compatible within most IPM programs and has low toxicity for beneficial insects
<b>Pack size</b>	10 L

\*Registered trademark

## Use patterns

### Apples

<b>Disease</b>	Black spot (scab)
<b>Rate</b>	80 mL/100 L
<b>WHP</b>	7 days

### Grapes

<b>Disease</b>	Powdery mildew
<b>Rate</b>	80 mL/100 L
<b>WHP</b>	7 days

# How it works

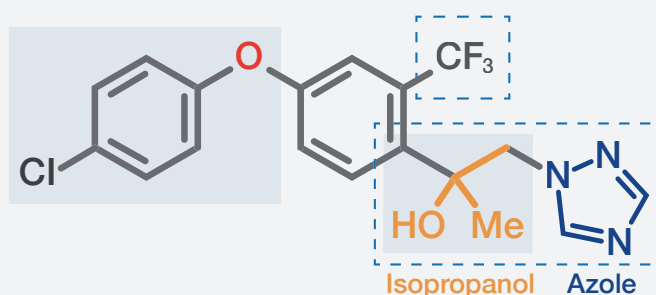
## Modes of action

Although Belanty is classified as a Group 3 fungicide, its hybrid 'isopropanol-azole' molecule is the first of its type and unique among demethylation inhibitors (DMIs).

The triazole 'head' of the molecule sits on the 'neck' of a slim isopropanol unit. That isopropanol component folds into a hook shape as the molecule switches from its unbound conformation to the bound one and docks with its target enzyme.

The formulation of the Belanty molecule promotes rapid uptake and enables it to bind much more strongly than other triazoles to the target enzyme: C 14-demethylase.

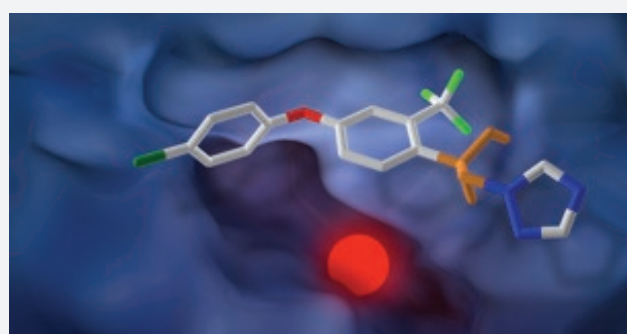
## Molecular structure



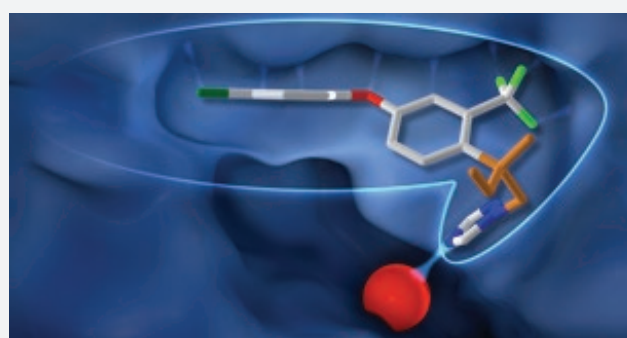
## Molecular flexibility

Belanty inhibits one specific enzyme, C 14-demethylase, which plays a role in ergosterol production inside the fungal cell. Ergosterol, like other sterols, is essential for the development of functional cell walls.

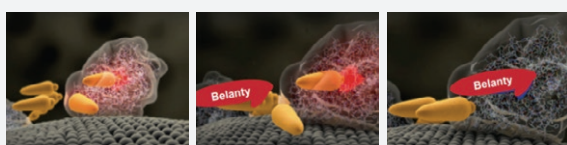
Belanty blocks ergosterol biosynthesis extremely effectively. The fungus dies as a consequence of the resulting cell membrane disruption.



As the Belanty molecule approaches the target enzyme...



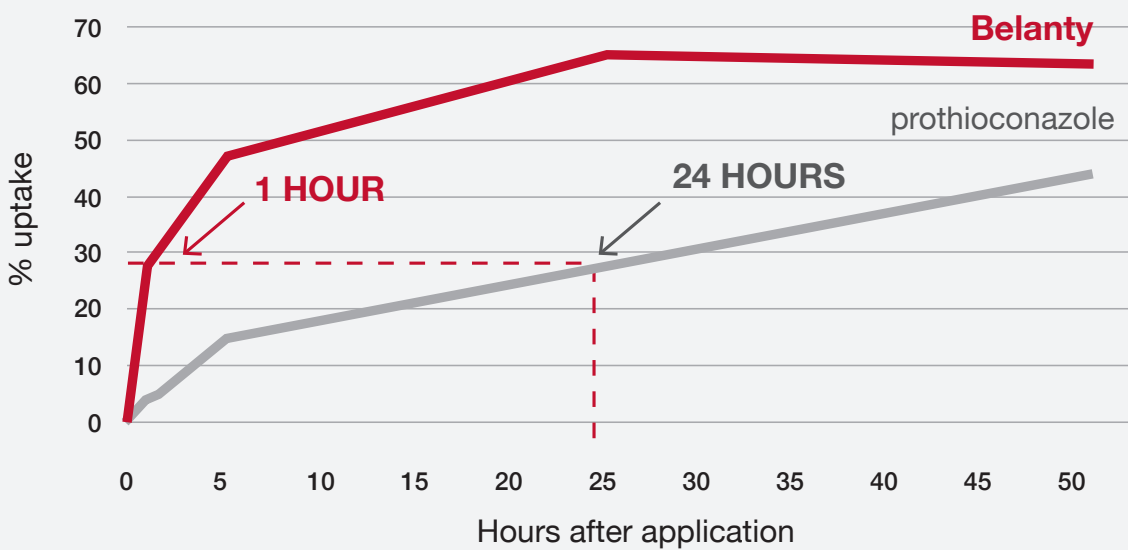
...it folds into a hook to 'catch' the enzyme pocket and bind strongly to it.



1. Ergosterol production inside the fungal cell
2. Belanty approaches the C 14-demethylase enzyme
3. Ergosterol production ceases due to Belanty binding to the enzyme pocket, resulting in fungal cell death.

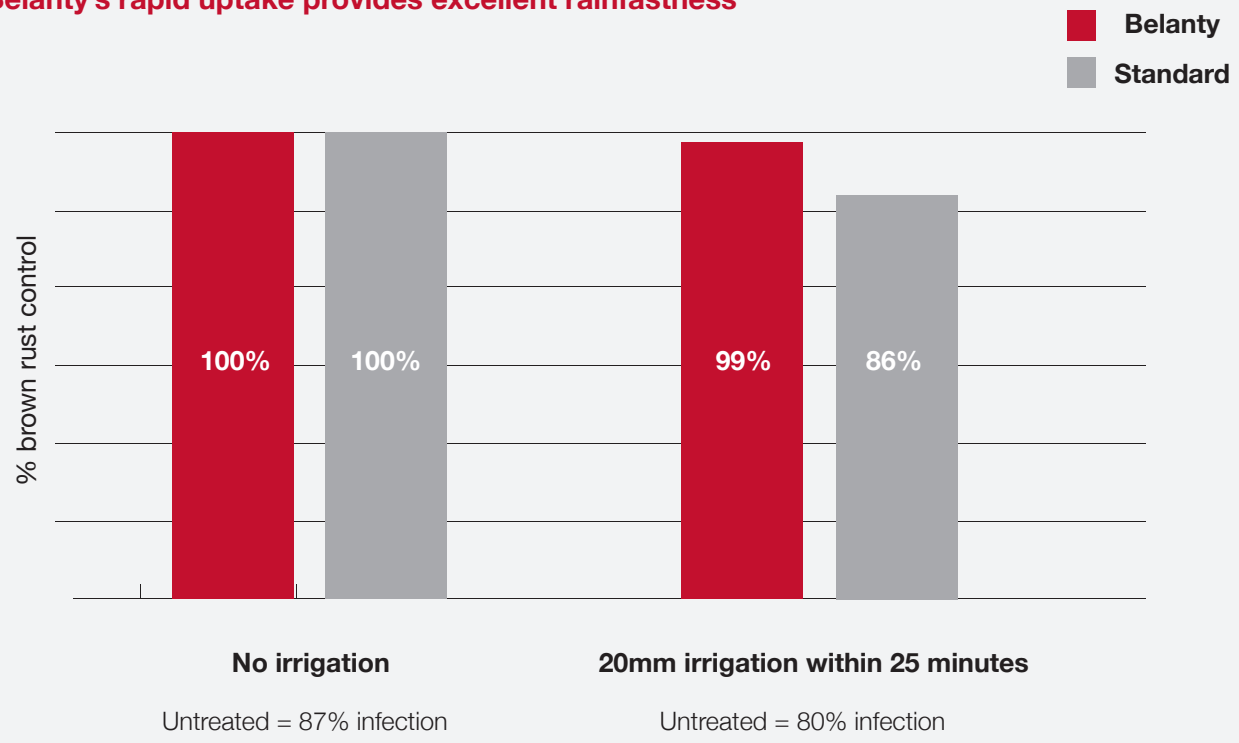
# Accelerated uptake and rainfastness

Belanty is taken up by the inner leaf much more quickly than older DMI fungicides, which gives it excellent rainfastness. In this laboratory test, a leaf took up as much Belanty in the first hour after application as the leaf treated with another DMI took up in a full day.



This glasshouse test shows one of the benefits of that exceptionally rapid uptake. Belanty was virtually rainfast – with irrigation reducing control by just 1% – after only 25 minutes.

## Belanty's rapid uptake provides excellent rainfastness



Glasshouse test brown rust 2014: 3 days curative. Application 3 days after inoculation with spore suspension. Irrigation of 20mm within 25 minutes

# Regulatory profile and IPM

## Belanty has low impact on beneficial insects, including pollinators

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### Regulatory profile

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**Belanty is non-toxic to people** after single ingestion, skin contact or inhalation. It is not mutagenic, carcinogenic or teratogenic and does not impair fertility.

**Belanty is safe to the environment when used according to the label.**

Bioaccumulation and leaching are not expected.

**Belanty has low toxicity for non-target species**

(birds, mammals, soil organisms, non-target arthropods, non-target plants, bees), but is toxic to aquatic organisms.

### Beneficial Insects

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Belanty has been tested and found to have low impact on:

Green lacewings *Chrysoperla carnea*

Brown lacewings *Micromus tasmaniae*

Ladybird beetles *Coccinella septempunctata*



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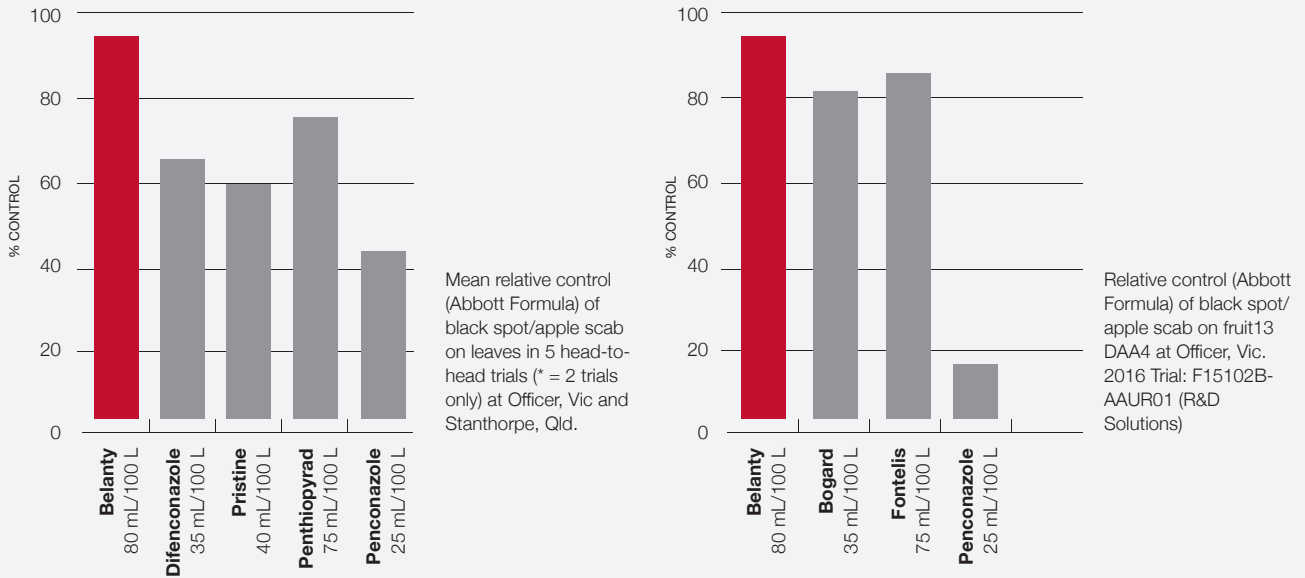
Belanty has been shown to exhibit low negative impact on bee populations, including colony health and development, and has been found to be compatible for use in the presence of many common beneficial arthropods, including ladybird beetles and lacewings.



# Belanty for apples

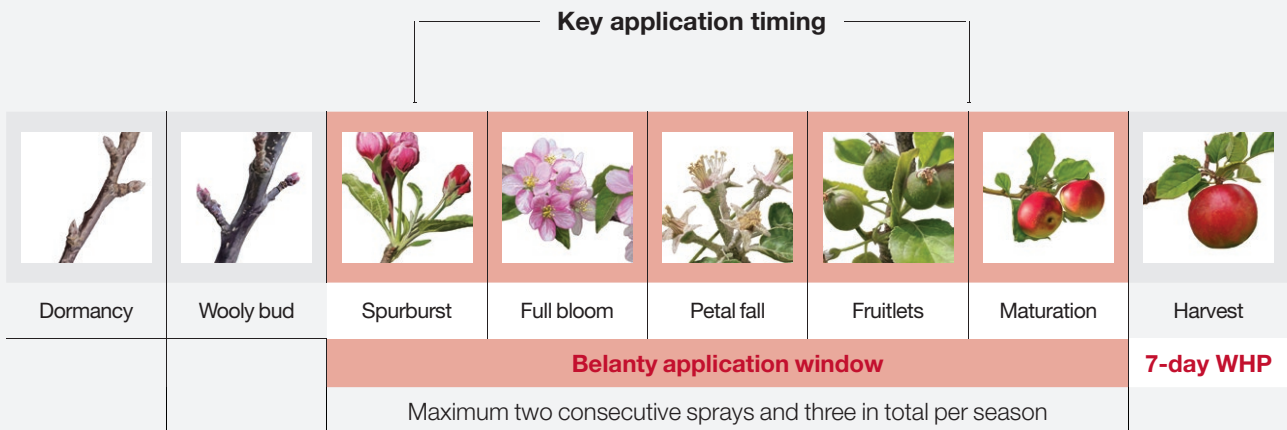
## Efficacy against black spot (scab)

Belanty showed consistently high levels of control in the series of comparative trials.



## Application timing

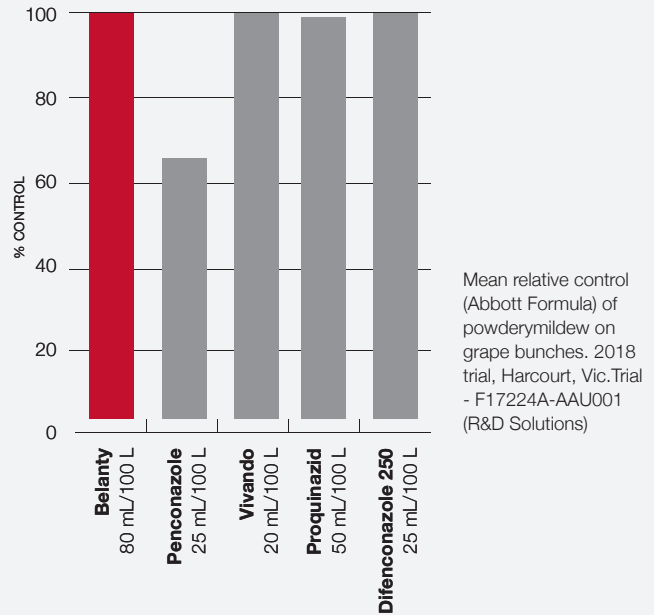
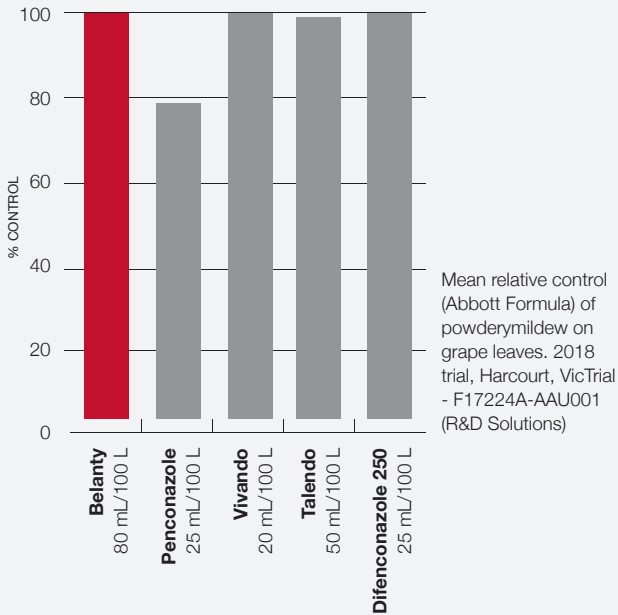
If Spring conditions favour high disease pressure, Belanty should be applied during early flowering with a follow-up spray between petal fall and second cover. Belanty can be used in rotation with protectant fungicides like Delan® and Polyram®.



# Belanty for grapes

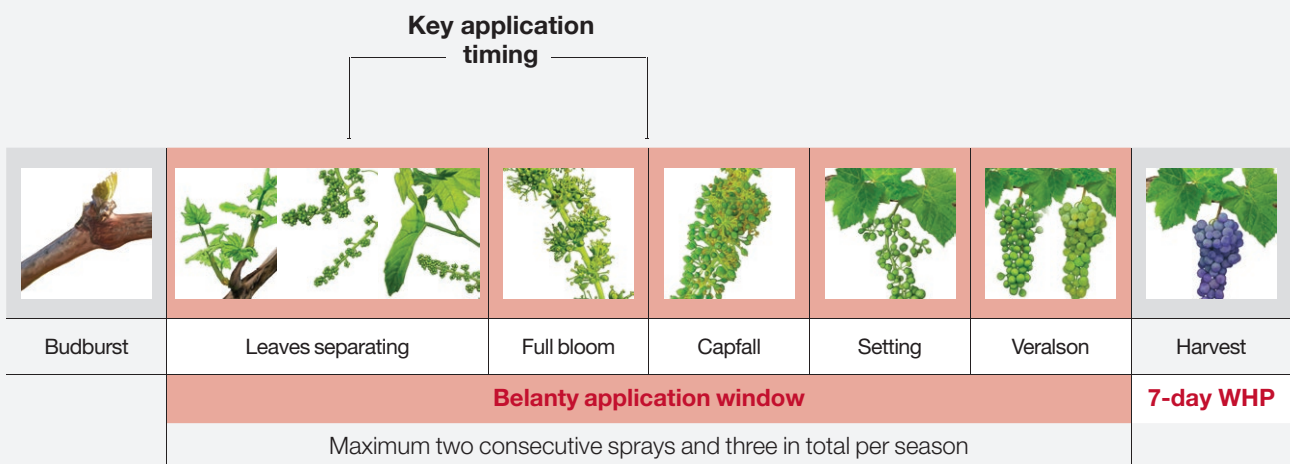
## Efficacy on powdery mildew

Multiple local trials have shown Belanty's very high levels of consistency and control and confirmed that it can match or outperform previous industry standards.



## Application timing

Powdery mildew generally spreads rapidly around flowering, so Belanty can be applied starting from advanced shoot growth/inflorescence and then used according to the anticipated disease pressure.



# Resistance management

BASF Belanty trials have shown no cross resistance to other Group 3 DMI fungicides, where DMI sensitivity is present.

Like all fungicides, Belanty should be used in rotation with fungicides with other modes of action and should not be used more than a maximum of 2 consecutive sprays, or a maximum of 3 sprays per season.

## Compatible Fungicides

Polyram®	Zampro®	Acrobat®
Top Wettable	Filan®	Sercardis®
Merivon®	Aero®	Kocide*
Score*	Delan®	Topas
Domark*	Teldor*	Revus*
Ziram Granuflo*	Amistar*	Captan WG

## Compatible Insecticides

Lorsban* EC	Confidor* SC	Success* Neo
Delegate* WG	Coragen*	Belt*
Movento*	Proclaim*	Prodigy*
Karate Zeon*	Fastac*	Insegar*
Calypso*	Mavrik*	Infito*
Chess*	Pirimor*	Altacor*

It is not compatible with Dithane\* Rainshield\*, Switch\*, and Bravo\* Weather Stik\*.

## Compatible Insecticides

Regalis®Plus

Compatible using agitator, shear test done, foaming possible, sediment 300µm – 150µm – 45µm. These are physical compatibilities, we do not warrant any adverse chemical reactions in crop. For further product compatibilities a jar test is recommended

\*Registered trademark

**For more information, visit  
crop-solutions.basf.com.au or contact  
your local BASF representative**

**ALWAYS READ AND FOLLOW LABEL DIRECTIONS.**

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