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Zampro®

Fungicide



Zampro contains 300 g/L ametoctradin and 225 g/L dimethomorph (MOA Group 45/40)

The Product

Zampro® is a unique fungicide for the control of downy mildew in grapes, bulb onions, spring onion, leafy vegetables, cucurbits and poppies. Zampro contains the active ingredients dimethomorph and ametoctradin.

Dimethomorph is a systemic morpholine fungicide, with the mode of action being inhibition of sterol synthesis which is vital for cell membrane structure and function (Group 40).

Ametoctradin is a non-systemic fungicide that inhibits energy production (respiration) in the cell mitochondria (Group 45). Ametoctradin is the sole member of Group 45.

Background

Zampro was first registered in Australia in April 2013 for the control of downy mildew in grapevines.

In 2021, the label claims were expanded, with registration granted for Zampro to be used on poppies and a range of vegetable crops for downy mildew control.

A different species of downy mildew infects each of the different crops but all are from the oomycete class, sometimes referred to as water moulds. They are no longer classed as true fungi, but are referred to as fungal-like organisms.



Downy mildew of grapevines showing sporulation on the underside of the leaf.

Downy mildews

Causal organism and crop:

Situation	Disease	Causal Organism
Grapevines	Downy mildew	<i>Plasmopara viticola</i>
Onions	Downy mildew	<i>Peronospora destructor</i>
Leafy vegetables	Downy mildew	<i>Hyaloperonospora parasitica</i> , <i>Peronospora farinosa</i>
Head lettuce	Downy mildew	<i>Bremia lactucae</i>
Cucurbits	Downy mildew	<i>Pseudoperonospora cubensis</i>
Poppies	Downy mildew	<i>Peronospora meconopsidis</i>

Application Rate

Zampro is registered at 80 mL/100 L for dilute use in grapevines; and at 800 mL/ha in all other registered crops.

Situation	Dose	Withholding period
Grapevines	80 mL/100 L	4 weeks (domestic wine grapes)
Onions	800 mL/ha	7 days
Leafy vegetables	800 mL/ha	7 days
Lettuce	800 mL/ha	7 days
Cucurbits	800 mL/ha	1 day
Poppies	800 mL/ha	6 weeks

Disease spectrum

Zampro activity is confined to the downy mildews. Disease caused by true fungal pathogens may need to be addressed by tank mixing with another product, e.g. mancozeb. This strategy would be useful for onions if purple blotch was likely to present a problem.

Both ametoctradin and dimethomorph have activity that is confined solely to the oomycete pathogens.

Both compounds need to be applied as protectants, i.e. before symptoms of disease appear in the crop.

Rainfastness

Zampro has a rainfast period of 1 hour for most crops.

Safety

Zampro has an excellent toxicological and environmental profile when used as directed.

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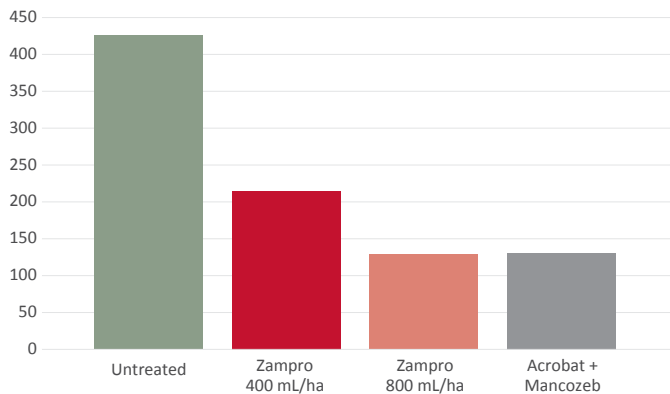
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Downy mildew control in Onions

Mannum, South Australia 2017 (6DAAC, 0-500 score)



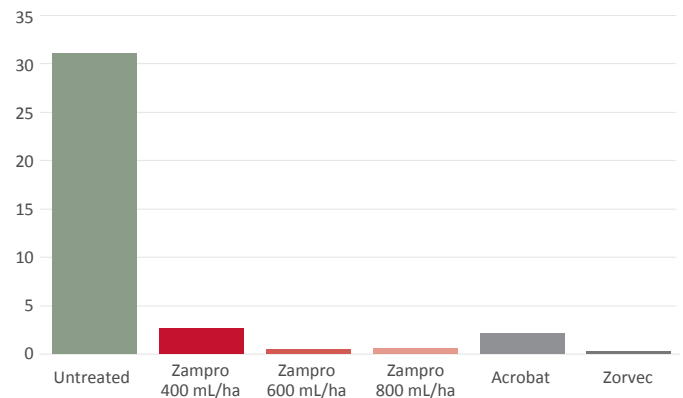
Conclusion

1. At 800 mL/ha Zampro provided very good control of downy mildew and was equivalent to Acrobat plus mancozeb.
2. Zampro was safe to apply to onions cv. Gladalan.



Downy mildew control in Lettuce

Werribee South, Victoria 2017 (7DAAD, % severity)



Conclusion

1. Zampro at 800 mL/ha provided excellent control of downy mildew on head lettuce cv. Marksman.



Features	Advantages	Benefits
New mode of action (Group 45)	QxI site of action is unique	No resistance to QoI or Qil groups
Locally systemic activity	Translaminar movement	Protects the underside of the leaf
Two distinct modes of action	Two ways to work	Disease resistance management
Rapid absorption onto plants	Excellent rainfastness	Spray is not easily washed off
Widely compatible	Mixes readily with other sprays	Increased application efficiency

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Directions for Use Table

The following is an extract of the product label and does not constitute the complete directions for use. The product label should be read thoroughly before opening the packaging.

Situation	Disease	Rate	WHP	Critical Comments
Grapevines	Downy mildew (<i>Plasmopara viticola</i>)	Dilute Spraying: 80 mL/100 L	4 weeks	<p>DO NOT use in crops intended for drying.</p> <p>Also see CAUTION section re export commodities.</p> <p>Apply at 7 to 14 day intervals when humid or wet conditions favour infection but before disease is evident. Use the shorter interval when conditions favouring infection are creating a high risk. Apply a maximum of 2 consecutive sprays before changing to an alternative mode of action for at least one application.</p> <p>Products containing metalaxyl or metalaxyl-M are recommended if downy mildew infection may have already occurred.</p> <p>Apply using dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.</p> <p>DO NOT use in equipment that requires greater than 400 mL/ 100 L (5X). DO NOT apply more than 2 sprays of ZAMPRO per season, as a precaution against the development of disease resistance.</p>
		Concentrate Spraying: Refer to the application section		
Bulb vegetables	Downy mildew (<i>Peronospora destructor</i>)	800 mL/ha	7 days	<p>Maintain a regular protectant spray program. Apply when conditions favour disease development but before disease is evident. Apply at 7–14 day intervals. Apply as a protectant program with a maximum of 2 applications per crop as a precaution against development of resistance.</p> <p>Apply in 250 to 500 L of water per hectare. Add a registered non ionic adjuvant at label rates.</p>
Leafy vegetables including head lettuce and brassica leafy vegetables (field and protected cropping)	Downy mildew (<i>Hyaloperonospora parasitica</i> , <i>Peronospora farinosa</i> , <i>Bremia lactucae</i>)	800 mL/ha	3 days	<p>Maintain a regular protectant spray program. Apply when conditions favour disease development but before disease is evident. Apply at 7–10 day intervals. Use the shorter interval when conditions favouring infection are creating a high risk. Apply a maximum of 2 applications per crop as a precaution against development of resistance.</p> <p>Apply in 250 to 500 L of water per hectare.</p>
Beetroot	Downy mildew (<i>Peronospora spp.</i>)		14 days	
Cucurbits (field and protected cropping)	Downy mildew (<i>Pseudoperonospora cubensis</i>)		1 day	<p>Maintain a regular protectant spray program. Apply when conditions favour disease development but before disease is evident. Apply two consecutive sprays 7 to 10 days apart, then change to a fungicide from another chemical group. Use the shorter interval when conditions favouring infection are creating a high risk. Apply a maximum of 2 applications per crop as a precaution against development of resistance.</p>
Poppies	Downy mildew (<i>Peronospora meconopsidis</i>)	800 mL/ha	6 weeks	<p>Commence spraying early (i.e. before the main disease infection period). Apply in 250 to 500 L of water per hectare.</p> <p>Apply as a protectant program with a maximum of 2 applications per crop. Commence when conditions favour disease development – humid or wet conditions. Apply before first sign of infection according to mildew infection periods or local warnings and repeat at 7–14 day intervals. Apply from ground cover crop stage until the start of flowering.</p>

The information provided herein may include extracts from the product label and does not constitute the complete directions for use.

READ THE PRODUCT LABEL THOROUGHLY BEFORE OPENING OR USING ZAMPRO

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