

Product Name: Conquest Mantaray 420 SC Fungicide

APVMA Approval No: 86520/136397



Label Name:	Conquest Mantaray 420 SC Fungicide
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Signal Headings:	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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Constituent Statements:	ACTIVE CONSTITUENTS: 210 g/L PROTHIOCONAZOLE 210 g/L TEBUCONAZOLE
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Mode of Action:	GROUP 3 FUNGICIDE
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Statement of Claims:	For the control of various diseases in wheat, barley, oats, triticale, canola and pyrethrum as specified in the DIRECTIONS FOR USE table
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Net Contents:	5L - 1000L
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Restrains:	This section contains file attachment.
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Directions for Use:	This section contains file attachment.
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Other Limitations:	A MANDATORY NO-SPRAY ZONE IS REQUIRED FOR PROTECTION OF THE ENVIRONMENT. REFER TO RESTRAINTS.
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Withholding Periods:	WITHHOLDING PERIODS Canola: Harvest - NOT REQUIRED WHEN USED AS DIRECTED Grazing - DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION Cereals: Harvest – DO NOT HARVEST FOR 5 WEEKS AFTER APPLICATION Grazing – DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION Pyrethrum: Harvest and Grazing – NOT REQUIRED WHEN USED AS DIRECTED
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Trade Advice:	Export of treated produce Growers should note that MRLs or import tolerances do not exist in all markets for produce treated with Mantaray. If you are growing produce for export, please check
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	with Conquest Crop Protection for the latest information on MRLs and import tolerances before using Mantaray.
General Instructions:	This section contains file attachment
Resistance Warning:	<p>Fungicide Resistance Warning</p> <p>Mantaray is a member of the DMI group of fungicides. For fungicide resistance management the product is a Group 3 fungicide. Some naturally occurring individual fungi resistant to the product and other Group 3 fungicides may exist through normal genetic variability in any fungal population. The resistant individuals can eventually dominate the fungal population if these fungicides are used repeatedly. These resistant fungi will not be controlled by this product and other Group 3 fungicides, thus resulting in a reduction in efficacy and possible yield loss. Since the occurrence of resistant fungi is difficult to detect prior to use, Conquest Crop Protection accepts no liability for any losses that result from failure of this product to control resistant fungi.</p>
Precautions:	<p>Re-entry Period</p> <p>Do not enter treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical-resistant gloves. Clothing must be laundered after each day's use.</p>
Protection Statements:	<p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT</p> <p>Very toxic to aquatic life. DO NOT contaminate streams, rivers, drains or watercourses with the chemical or used containers. A spray drift minimisation strategy should be employed at all times. Spray drift may occur under adverse meteorological conditions or from certain spraying equipment. Do not allow spray to drift onto sensitive areas including, but not limited to, susceptible plants/crops, cropping land, pasture, natural streams, rivers, wetlands, watercourses or human dwellings.</p> <p>Integrated pest management – where IPM is practiced: Mantaray 420 SC Foliar Fungicide may have adverse effects on some non-target beneficial insects such as predatory mites.</p>
Storage and Disposal:	<p>Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.</p> <p>Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product. Do not re-use empty container for any other purpose.</p>
Safety Directions:	<p>May irritate eyes. Avoid contact with eyes. When opening the container, mixing and loading and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), and elbow length chemical resistant gloves. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing). Wash hands after use. After each day's use, wash gloves and contaminated clothing.</p>
First Aid Instructions:	<p>If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766.</p>
First Aid Warnings:	<p>ADDITIONAL USER SAFETY INFORMATION</p> <p>WARNING: May cause birth defects.</p>

GENERAL INSTRUCTIONS

Foliar diseases on cereal crops

Monitor the crop regularly for symptoms of disease. Generally spray at the first sign of disease, although this will depend on factors such as expected weather conditions and the particular crop variety resistance. Refer to Directions for Use for particular disease recommendations. Up to two sprays of Mantaray may be applied per season to the crop. Ensure good coverage of all susceptible plant parts.

Disease control in oats

Caution: Application of tebuconazole (present in Mantaray) to some varieties of oats may result in early senescing and bronzing of leaves.

Varieties most at risk may also exhibit this trait under various stress conditions not related to fungicide sprays.

Mitika variety of oats has been identified as being susceptible to this condition when tebuconazole is applied, although other varieties may also be susceptible.

The potential disease control to be achieved by using Mantaray in Mitika oats should be weighed against the risk of crop damage.

For further information on oat tolerance contact Conquest Crop Protection.

Disease control in canola

Blackleg

Higher blackleg risk can be expected in higher rainfall districts (above 500 mm annual rainfall), where crops are grown within 500 m of a previous year's stubble and in later sown crops (May to August). Other factors will also increase the risk of blackleg infection, including the intensity of canola cropping in a district, rainfall before sowing and the frequency of growing the same canola cultivar. Consult industry guidelines for more detailed assessment of blackleg risk in specific situations. Up to two sprays of Mantaray may be applied per season to the crop.

Sclerotinia

Mantaray is most effective when application is made prior to conditions conducive to sclerotinia infection. Infection and disease development are most conducive in warmer winter or spring conditions with extended periods of leaf wetness due to rainfall, dew and high humidity. Sclerotinia is most likely to develop where day temperatures are warmer coinciding with a saturated soil profile and rainfall events. Refer also to industry guidelines for advice on conditions under which sclerotinia are most likely to develop.

Control of sclerotinia stem rot is more effective in crops which have a uniform flowering. Uneven flowering (e.g. caused by staggered germinations) makes optimum spray timing difficult and two sprays may be required in these crops.

Generally a single application of Mantaray at 20 to 30% flowering will control sclerotinia in crops with a short flowering interval. Crops with an extended flowering period may require a second application prior to 50% flowering (full-bloom) to adequately control sclerotinia if conditions late in the season are conducive to development of disease.

Length of protection may be reduced in bulky crops where coverage is difficult and where there is growth dilution of the fungicide. For optimum protection, application should be directed to obtain coverage on petals, leaves and stems.

Disease control in pyrethrum

Apply only as instructed by the pyrethrum adviser.

Mixing

Prior to pouring, shake container vigorously, then add the required quantity of Mantaray 420 SC to water in the spray vat with agitators in motion. Add the required amount of adjuvant if necessary and mix thoroughly.

Application

Ground:

Wheat, barley, oats and triticale: Apply product using a spray volume of 70 – 100 L/ha and a MEDIUM droplet size category.

Canola: Apply product using a spray volume of 60 – 100 L/ha and a MEDIUM droplet size category.

Pyrethrum: Apply product using a spray volume of 250 L/ha or above and a MEDIUM droplet size category.

Aerial: (not pyrethrum) Apply product using a minimum spray volume of 20 L/ha and a MEDIUM droplet size category.

Compatibility

For information on compatibility please contact Conquest Crop Protection Pty Ltd.

USE OF ADJUVANT

Depending on the disease that is to be treated in the crop, some benefit in efficacy may be gained from addition of an appropriate adjuvant to the spray mixture.

Follow these guides when deciding on the addition of an adjuvant to the tank mixture prior to spraying.

Disease	Addition of adjuvant	
	Mantaray 420 SC 150 mL/ha	Mantaray 420 SC 300 mL/ha
Barley		
Net form net blotch	Yes	Not required
Spot form net blotch	Yes	Not required
Powdery mildew	Not required	Not required
Leaf scald	Yes	Not required
Leaf rust	Yes	Not required
Oats		
Stem rust	N/A	Yes (BS 1000 only)
Leaf rust	N/A	Yes (BS 1000 only)
Septoria blotch	Yes	Not required
Wheat		
Stripe rust	Yes	Yes (BS 1000 only)
Stem rust	Yes	Yes (BS 1000 only)
Leaf rust	Yes	Yes (BS 1000 only)
Yellow leaf spot	Not required	Not required
Septoria nodorum – glume blotch	Yes	Not required
Powdery mildew	Yes	Not required
Fusarium head blight/head scab	Yes	Yes (BS 1000 only)
Triticale		
Stripe rust	Yes	Yes (BS 1000 only)
Canola	Mantaray 420 SC 375 mL/ha	Mantaray 420 SC 450 mL/ha
Blackleg and sclerotinia stem rot	Not required	Not required
Pyrethrum	Mantaray 420 SC 1.0 L/ha	
Ray blight	Not required	

Note: Adjuvant is not required for use of Mantaray 420 SC on canola or pyrethrum.

Suitable Adjuvants	Comments
BS 1000 0.25%	Can be used at all rates of Mantaray 420 SC for ground and aerial application.
Hasten® 1% Rocket® 1% Kwickin® 1% Uptake® 0.5%	For use with Mantaray 420 SC at 150 mL/ha only. Do not use with Mantaray 420 SC at rates above 150 mL/ha. Do not use for aerial application.

RESTRAINTS

CEREALS AND CANOLA

A maximum of two applications may be made per cereal or canola crop.

PYRETHRUM

A maximum of one application may be made per pyrethrum crop.

DO NOT apply if heavy rain has been forecasted within 48 hours.

DO NOT apply to waterlogged soil.

DO NOT irrigate past the point of runoff for 48 hours after application.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift

DO NOT apply by aircraft to pyrethrum crops.

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

DO NOT apply by a boom sprayer unless the following requirements are met:

- Spray droplets not smaller than a **MEDIUM** spray droplet size category.
- Minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed.

DO NOT apply by aircraft unless the following requirements are met:

- Spray droplets not smaller than a **MEDIUM** spray droplet size category.
- For maximum release heights above the target canopy of 3m or 25% of wingspan or 25% of rotor diameter whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for aircraft') are observed.

MANDATORY BUFFER ZONES

DO NOT apply if there are aquatic and wetland areas, including aquacultural ponds, surface streams and rivers downwind from the application area and within the **mandatory buffer zones** shown in Tables 1, 2 and 3 below.

Table 1: Buffer zones for protection of the aquatic environment - Cereals

Buffer zones for aircraft	
Type of aircraft	Mandatory downwind buffer zones
	Natural aquatic areas
Fixed-wing	80 metres
Helicopter	60 metres
For ground application	
	10 metres

Table 2: Buffer zones for protection of the aquatic environment - Canola

Buffer zones for aircraft	
Type of aircraft	Mandatory downwind buffer zones
	Natural aquatic areas
Fixed-wing	180 metres
Helicopter	120 metres
For ground application	
	5 metres

Table 3: Buffer zones for boom sprayers – Pyrethrum

Application rate	Mandatory downwind buffer zones
	Natural aquatic areas
Up to maximum label rate	10 metres

DIRECTIONS FOR USE

CROP	STATE	DISEASE	RATE	CRITICAL COMMENTS
Barley	All States	Net form net blotch (<i>Pyrenophora teres f. teres</i>)	150 to 300 mL/ha	Monitor crops from mid tillering. On susceptible varieties apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development.
		Spot form net blotch (<i>Pyrenophora teres f. maculata</i>)		Use the higher rates (up to 300 mL/ha) where conditions favour severe disease. Where lower rates are used apply with a suitable adjuvant (refer to Use of Adjuvant).
		Powdery mildew (<i>Blumeria graminis f.sp. hordei</i>)		Monitor crops from mid tillering. Use the higher rate in higher yielding crops where conditions favour disease development or susceptible varieties are grown.
		Leaf scald (<i>Rhynchosporium secalis</i>)		Monitor crops from mid tillering (earlier if no effective seed treatment has been applied). On susceptible varieties apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development. Use the higher rates (up to 300 mL/ha) where conditions favour severe disease. Where lower rates are used apply with a suitable adjuvant (refer to Use of Adjuvant).
		Leaf rust (<i>Puccinia hordei</i>)		Monitor crops from late tillering. Apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development. Use the higher rates (up to 300 mL/ha) where conditions favour severe disease, or disease is established in the lower canopy. Where lower rates are used apply with a suitable adjuvant (refer to Use of Adjuvant).
Oats	All States	Stem rust (<i>Puccinia graminis f.sp. avenae</i>)	300 mL/ha + adjuvant (refer to Use of Adjuvant)	Monitor crops from early stem elongation, and on susceptible varieties apply at the first sign of infection. Refer to General Instructions – Disease control in Oats , for potential risks associated with application to oats.
		Leaf rust (<i>Puccinia coronata f.sp. avenae</i>)		Monitor crops from early stem elongation, and on susceptible varieties apply at the first sign of infection. Refer to General Instructions – Disease control in Oats , for potential risks associated with application to oats.
		Septoria blotch (<i>Phaeosphaeria avenaria</i>)	150 to 300 mL/ha	Monitor crops from early tillering and on susceptible varieties apply at the first sign of infection. Use the higher rate (up to 300 mL/ha) in higher yielding crops where conditions favour disease development or susceptible varieties are grown. Continue to monitor crops after application. Re-application may be required if conditions favour disease development.

CROP	STATE	DISEASE	RATE	CRITICAL COMMENTS
				Where lower rates are used, apply with a suitable adjuvant (refer to Use of Adjuvant). Refer to General Instructions – Disease control in Oats , for potential risks associated with application to oats.
Wheat	All States	Stripe rust (<i>Puccinia striiformis</i>)	150 mL/ha to 300 mL/ha + adjuvant (refer to Use of Adjuvant)	Monitor crops from early stem elongation, and on susceptible varieties apply at the first sign of infection.
		Stem rust (<i>Puccinia graminis tritici</i>)		Use the higher rate (up to 300 mL/ha) in higher yielding crops where conditions favour disease development or susceptible varieties are grown.
		Leaf rust (<i>Puccinia recondita</i> f.sp. <i>tritici</i> , <i>Puccinia triticina</i>)		Continue to monitor crops after application, re-application may be required if conditions favour disease development and initial application is made before the flag leaf has emerged.
		Fusarium head blight/head scab (<i>Fusarium graminearum</i>)		Apply as a preventative spray at the first sign of flowering. Spray equipment must be set up to achieve good coverage of wheat heads. Use the higher rate (up to 300 mL/ha) in higher yielding crops where conditions favour disease development or susceptible varieties are grown.
		Yellow leaf spot (<i>Pyrenophora tritici-repentis</i>)	150 to 300 mL/ha	Monitor crops from late tillering and spray before disease has infected any of the top three leaves of the crop. Aim to protect the three top leaves of the plant from disease.
		Septoria nodorum -glume blotch (<i>Phaeosphaeria nodorum</i>)		Monitor crops from late tillering. Aim to protect the three top leaves of the plant from disease. Where lower rates are used apply with a suitable adjuvant (refer to Use of Adjuvant).
Powdery mildew (<i>Blumeria graminis</i> f.sp. <i>tritici</i>)	Monitor crops from mid tillering. Apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development. Use the higher rates (up to 300 mL/ha) where conditions favour severe disease, or disease is established in the lower canopy. Where lower rates are used apply with a suitable adjuvant (refer to Use of Adjuvant).			
Triticale	All States	Stripe rust (<i>Puccinia striiformis</i>)	150 mL/ha to 300 mL/ha + adjuvant	Monitor crops from early stem elongation, and on susceptible varieties apply at the first sign of infection. Use the higher rate (up to 300 mL/ha) in higher yielding crops where conditions favour disease development or susceptible varieties are grown. Continue to monitor crops after application. Re-application may be required if conditions favour disease development and initial application is made before the flag leaf has emerged.

CROP	STATE	DISEASE	RATE	CRITICAL COMMENTS
Canola	All States	Blackleg (<i>Leptosphaeria maculans</i>)	375 to 450 mL/ha	Apply at the 4 to 6 leaf crop stage of blackleg susceptible varieties (blackleg ratings of MS or lower) or in situations of high blackleg risk (refer to General Instructions – Disease control in Canola). Will reduce lodging and stem canker from blackleg. A follow up application may be required at green bud stage in high disease risk situations or where an effective blackleg seed treatment has not been used.
		Sclerotinia stem rot (<i>Sclerotinia sclerotiorum</i>)		Apply Mantaray between 20 and 50% (full bloom) flowering. For best results apply as a preventative application at 20-30% flowering prior to significant disease expression (refer to General Instructions – Disease control in Canola). Good coverage throughout the entire canopy is essential. Using a water rate at the higher end of the range (i.e. 100 L/ha for ground application and 30 L/ha for aerial application) will improve spray coverage. Apply the higher rate (450 mL/ha) under high disease pressure.
Pyrethrum	Victoria, Tasmania	Ray blight (<i>Phoma ligulicola</i>) and sclerotinia crown rot (<i>Sclerotinia minor</i> and <i>S. sclerotiorum</i>)	1.0 L/ha	Apply as part of a preventative spray program at flowering. Apply in rotation with other control measures, under direction of pyrethrum advisers. The addition of an adjuvant is not required in pyrethrum.

**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS
AUTHORISED UNDER APPROPRIATE LEGISLATION**