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CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Proline[®] 480 SC

FUNGICIDE

ACTIVE CONSTITUENTS: 480 g/L PROTHIOCONAZOLE

GROUP	3	FUNGICIDE
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For the control of various diseases in peanuts, wheat, barley, oats and triticale as specified in the DIRECTIONS FOR USE table

DIRECTIONS FOR USE

RESTRAINTS

DO NOT apply where the slope exceeds 7%.

DO NOT apply if heavy rains or storms that are likely to cause runoff are forecast within 48 hours.

DO NOT apply to waterlogged soils.

DO NOT irrigate to the point of runoff for at least 48 hours after application.

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

SPRAY DRIFT RESTRAINTS

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

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) 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 3 m or 25 per cent of wingspan or 25 per cent of rotor diameter, whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section) 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 the table below.

Buffer zones for protection of the aquatic environment		
Wind speed range at time of application	Downwind mandatory buffer zone	
FOR AERIAL APPLICATION		
	Fixed-wing	Helicopter
from 3 to 8 kilometres per hour	60 metres	60 metres
from 8 to 14 kilometres per hour	60 metres	60 metres
from 14 to 20 kilometres per hour	80 metres	60 metres
FOR GROUND APPLICATION		
From 3 to 20 kilometres per hour	5 metres	

DIRECTIONS FOR USE TABLE

CROP	DISEASE	RATE	TANK MIX PARTNER AND RATE	CRITICAL COMMENTS
Peanuts (QLD, NSW, WA, NT only)	Early leaf spot, late leaf spot, rust	250 to 400 mL/ha	-	<p>Begin spraying no later than 3-4 weeks after emergence.</p> <p>Repeat applications at 10-14 day intervals. Under conditions conducive to high disease pressure, prolonged wet weather or heavy rains, use the high rate and shortest spray interval.</p> <p>In localities with frequent and persistent rainfall, or in irrigated crops, it is recommended that Proline 480 SC Fungicide usage should be integrated with a base program of protectant fungicide applications for best control of leaf diseases. Apply no more than four applications of Proline per season.</p> <p>Ground application Ensure thorough coverage of foliage and apply in a spray volume of 150 to 450 L of water per hectare.</p> <p>Aerial application Apply at least 30 L of spray mixture per hectare.</p> <p>Closed mixing/loading systems must be used when preparing spray for aerial application.</p>
Wheat	Septoria tritici blotch (<i>Zymoseptoria tritici</i>)	70 to 160 mL/ha	-	<p>Application timing Monitor crops from mid to late 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.</p> <p>A maximum of two applications may be made per crop.</p> <p>Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control, longer residual activity, and higher yield potential.</p> <p>Apply with a suitable adjuvant for all solo applications. Refer to Use of Adjuvant section.</p>

CROP	DISEASE	RATE	TANK MIX PARTNER AND RATE	CRITICAL COMMENTS
Wheat <i>Cont.</i>				Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.
	Septoria nodorum - glume blotch (<i>Parastagonospora nodorum</i>), Yellow leaf spot (<i>Pyrenophora tritici-repentis</i>), Powdery mildew (<i>Blumeria graminis</i> f.sp. <i>tritici</i>)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius® at 75 to 145 mL/ha	Application timing Monitor crops from mid to late 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. A maximum of two applications may be made per crop. Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control, longer residual activity, and higher yield potential. Apply with a suitable adjuvant for tank mixes at lower rates. Refer to Use of Adjuvant section. Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.
	Leaf rust (<i>Puccinia recondita</i> f.sp. <i>tritici</i> , <i>Puccinia triticina</i>), Stripe rust (<i>Puccinia striiformis</i>), Stem rust (<i>Puccinia graminis tritici</i>)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius at 75 to 145 mL/ha	Application timing Monitor crops from early stem elongation. On susceptible varieties apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development and initial application is made before the flag leaf has emerged. A maximum of two applications may be made per crop. Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control, longer residual activity, and higher yield potential. Apply with a suitable adjuvant for all tank mixes. Refer to Use of Adjuvant section. Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.
	Fusarium head blight/ head scab (<i>Fusarium graminearum</i>)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius at 75 to 145 mL/ha	Application timing Apply as a preventative spray at the first sign of flowering. Spray equipment must be set up to achieve good coverage of wheat heads. A maximum of two applications may be made per crop.

CROP	DISEASE	RATE	TANK MIX PARTNER AND RATE	CRITICAL COMMENTS
Wheat <i>Cont.</i>				<p>Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control, longer residual activity, and higher yield potential. Apply with a suitable adjuvant for all tank mixes. Refer to Use of Adjuvant section.</p> <p>Resistance Management: This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.</p>
Barley	Net form net blotch (<i>Pyrenophora teres</i> f.sp. <i>teres</i>)	70 to 160 mL/ha	-	<p>Application timing Monitor crops from mid to late 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. A maximum of two applications may be made per crop.</p> <p>Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control, longer residual activity, and higher yield potential. Apply with a suitable adjuvant for all solo applications. Refer to Use of Adjuvant section.</p> <p>Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.</p>
	Spot form net blotch (<i>Pyrenophora teres</i> f.sp. <i>maculata</i>), Leaf scald (<i>Rhynchosporium secalis</i>), Powdery mildew (<i>Blumeria graminis</i> f.sp. <i>hordei</i>), Leaf rust (<i>Puccinia hordei</i>)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius at 75 to 145 mL/ha	
	Physiological leaf spotting (abiotic)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius at 75 to 145 mL/ha	<p>Application timing Physiological leaf spotting (PLS) can be caused by a combination of susceptible varieties and environmental conditions conducive to symptom development e.g., prolonged periods of high light intensity during susceptible growth stages. Applications of Proline + tank mix partner for disease control between GS 32 and 59 can reduce the severity of PLS symptoms on the upper canopy leaves. A maximum of two applications may be made per crop.</p> <p>Rate selection and adjuvants Use the higher rates where there is a high risk of PLS, and significant yield impact is expected. Apply with a suitable adjuvant for tank mixes at lower rates. Refer to Use of Adjuvant section.</p> <p>Resistance Management This use may be subject to a CropLife resistance management strategy. For further</p>

CROP	DISEASE	RATE	TANK MIX PARTNER AND RATE	CRITICAL COMMENTS
Barley <i>Cont.</i>				information refer to the CropLife Australia website.
Triticale	Stripe rust (<i>Puccinia striiformis</i>)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius at 75 to 145 mL/ha	<p>Application timing Monitor crops from early stem elongation. On susceptible varieties apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development and initial application is made before the flag leaf has emerged. A maximum of two applications may be made per crop.</p> <p>Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control, longer residual activity, and higher yield potential. Apply with a suitable adjuvant for all tank mixes. Refer to Use of Adjuvant section.</p> <p>Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.</p>
Oats	Stem rust (<i>Puccinia graminis</i> f.sp. <i>avenae</i>), Leaf rust (<i>Puccinia coronata</i> f.sp. <i>avenae</i>)	130 mL/ha	430 g/L tebuconazole e.g., Orius at 145 mL/ha	<p>Application timing Monitor crops from early stem elongation. On susceptible varieties apply at the first sign of disease development. Monitor and reapply within 14 to 21 days if conditions favour disease development. A maximum of two applications may be made per crop.</p> <p>Rate selection and adjuvants Apply with a suitable adjuvant for all tank mixes. Refer to Use of Adjuvant section.</p> <p>Crop safety Refer to General Instructions - Crop Safety - Oats, for potential risks associated with application to oats.</p> <p>Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.</p>
	Septoria blotch (<i>Phaeosphaeria avenaria</i>)	70 to 130 mL/ha	430 g/L tebuconazole e.g., Orius at 75 to 145 mL/ha	<p>Application timing Monitor crops from mid to late 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. A maximum of two applications may be made per crop.</p> <p>Rate selection and adjuvants Use the higher rates where conditions favour severe disease, or disease is established in the lower canopy. Higher rates may provide better disease control,</p>



CROP	DISEASE	RATE	TANK MIX PARTNER AND RATE	CRITICAL COMMENTS
Oats <i>Cont.</i>				longer residual activity, and higher yield potential. Apply with a suitable adjuvant for tank mixes at lower rates. Refer to Use of Adjuvant section. Crop safety Refer to General Instructions - Crop Safety - Oats, for potential risks associated with application to oats. Resistance Management This use may be subject to a CropLife resistance management strategy. For further information refer to the CropLife Australia website.

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

WITHHOLDING PERIODS

Peanuts:

HARVEST DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION

GRAZING DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS 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

GENERAL INSTRUCTIONS

DISEASE CONTROL

Foliar diseases on peanuts

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 four sprays of Proline 480 SC Fungicide may be applied per season to the crop. Ensure good coverage of all susceptible plant parts.

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 specific disease recommendations. Up to two non-consecutive sprays of Proline may be applied per season to the crop for fungicide resistance management purposes. Ensure good coverage of all susceptible plant parts.

Physiological leaf spotting

Physiological leaf spotting (PLS) is an abiotic stress disorder of cereal crops that typically occurs in barley. Barley varieties differ in susceptibility to PLS, with evidence suggesting that exposure to light of different wavelengths plays a major role in symptom expression. Leaf spots should be accurately diagnosed prior to application of Proline as they can often resemble spotting symptoms caused by fungal pathogens or herbicides. Proline should be used primarily to control the fungal diseases specified in the Directions for Use table and should not be applied to reduce the severity of PLS symptoms unless a significant impact on yield is expected. Do not apply Proline to reduce spotting symptoms of other abiotic stress disorders e.g., nutritional deficiencies or toxicities, frost damage, waterlogging, drought; those caused by the application of other products e.g., herbicides, foliar fertilisers, adjuvants; or those caused by pest infections or diseases not listed on the label.

CROP SAFETY

Tank mixtures

When applying Proline in a tank mix with a tebuconazole product e.g., Orius or any other product, refer to that product's label for any additional guidelines on application and crop safety. This includes guidelines to minimise potential off target effects.

Oats

Caution: Application of Proline in combination with a tebuconazole product e.g., Orius 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 Proline in Mitika oats should be weighed against the risk of crop damage.

For further information on oat tolerance contact Bayer Crop Science.

MIXING

Two thirds fill the spray tank with clean water, and with the agitator operating, add the required quantity of Proline. For tank mixtures with other products e.g., Orius, add Proline after the tank mix partner has been added to the tank and agitated to ensure thorough suspension in the spray solution. Top up the spray tank to the required volume with clean water with the agitator running. Add the required quantity of adjuvant after mixing is complete and spray tank is filled to the required level. Maintain agitation while spraying.

APPLICATION

Ground

Peanuts: Apply product using a spray volume of 150 to 400 L/ha. Ensure thorough coverage of foliage.

Cereals: Apply product using a spray volume of 70 - 100 L/ha and a MEDIUM spray droplet size quality.

Aerial

Peanuts: Apply at least 30 L of spray mixture per hectare. DO not use open mixing/loading systems when preparing spray for aerial application.

Cereals: Apply product using a minimum spray volume of 20 L/ha and a MEDIUM spray droplet size quality. Do not use adjuvants other than alcohol alkoxylates e.g., BS1000 – refer to Use of Adjuvant section.

USE OF ADJUVANT

Cereal crops

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. A suitable adjuvant should be added to solo applications of Proline.

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

Disease	Addition of adjuvant	
	Proline 480 SC 70 mL/ha	Proline 480 SC 160 mL/ha
Barley		
Net form net blotch	Yes	Yes (Alcohol alkoxylate only)
Wheat		
Septoria tritici blotch	Yes	Yes (Alcohol alkoxylate only)

Disease	Addition of adjuvant	
	Proline 480 SC 70 mL/ha + 430 g/L tebuconazole at 75 mL/ha	Proline 480 SC 130 mL/ha + 430 g/L tebuconazole at 145 mL/ha
Barley		
Spot form net blotch	Yes	Not required
Powdery mildew	Yes	Not required
Leaf scald	Yes	Not required
Leaf rust	Yes	Not required
Physiological leaf spotting	Yes	Not required
Oats		
Stem rust	N/A	Yes (Alcohol alkoxylate only)
Leaf rust	N/A	Yes (Alcohol alkoxylate only)
Septoria blotch	Yes	Not required
Wheat		
Stripe rust	Yes	Yes (Alcohol alkoxylate only)
Stem rust	Yes	Yes (Alcohol alkoxylate only)
Leaf rust	Yes	Yes (Alcohol alkoxylate only)
Yellow leaf spot	Yes	Not required



Disease	Addition of adjuvant	
	Proline 480 SC 70 mL/ha + 430 g/L tebuconazole at 75 mL/ha	Proline 480 SC 130 mL/ha + 430 g/L tebuconazole at 145 mL/ha
Septoria nodorum – glume blotch	Yes	Not required
Powdery mildew	Yes	Not required
Fusarium head blight/head scab	Yes	Yes (Alcohol alkoxylate only)
Triticale		
Stripe rust	Yes	Yes (Alcohol alkoxylate only)

Suitable Adjuvants	Comments
Alcohol alkoxylate (1000 g/L) e.g., BS1000 0.25%	Can be used at all rates of Proline 480 SC for ground and aerial application.
Hasten® 1% Kwickin® 1% D-C-Trate® 1% Uptake® 0.5%	For use with Proline 480 SC solo and tank mix applications at 70 mL/ha only. Do not use with Proline 480 SC at rates above 70 mL/ha. Do not use for aerial application.

For more information on approved alternative adjuvants, please contact your local Bayer Crop Science representative.

COMPATIBILITY

For the latest information on product compatibilities, contact your local Bayer Crop Science representative.

FUNGICIDE RESISTANCE WARNING

GROUP	3	FUNGICIDE
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Proline 480 SC Fungicide 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, Bayer CropScience Pty Ltd accepts no liability for any losses that result from failure of this product to control resistant fungi.

PRECAUTIONS

Re-entry Period

Do not enter treated areas for 1 day when conducting high exposure activities such as hand harvesting, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. For all other activities, 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.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life. DO NOT contaminate streams, rivers, drains or waterways with the chemical or used containers. A spray drift minimisation strategy should be employed at all times.

Integrated pest management – where IPM is practiced: Proline 480 SC Fungicide may have adverse effects on some non-target beneficial insects such as predatory mites.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.

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 use empty container for any other purpose.

**SAFETY DIRECTIONS**

May irritate the eyes. Avoid contact with eyes. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length chemical-resistant gloves. If applying by boomspray equipment 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.

FIRST AID

First aid is not generally required. If in doubt, contact a Poisons Information Centre (phone Australia 13 11 26) or a doctor.

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet, which can be obtained from www.crop.bayer.com.au.

EXCLUSION OF LIABILITY

This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

Proline® is a Registered Trademark of the Bayer Group.

APVMA Approval No. 68332/135501

FOR 24 HOUR SPECIALIST ADVICE
IN EMERGENCY ONLY
PHONE 1800 033 111

GHS STATEMENTS

Classification not required according to GHS criteria