

PROBLAD®

PCS 06811

GROUP BM 01 FUNGICIDE

A soluble concentrate from the Aqueous extract from the germinated seeds of sweet *Lupinus albus*, 100% (w/w) (containing 20% w/w BLAD protein) for the control of *Botrytis* and Powdery mildew on various crops in permanent protection with full enclosure, protected (including tunnels) and outdoor situation.

PROBLAD

A soluble concentrate from the aqueous extract from the germinated seeds of sweet *Lupinus albus*, 100% (w/w) (containing 20% w/w BLAD protein). Keep out of reach of children.

Wash thoroughly after handling.

Dispose of contents/container to a licenced hazardous waste disposal contractor or collection site except for triple rinsed, empty containers which can be disposed of as non-hazardous waste

To avoid risks to human health and the environment, comply with the instructions of use.

PCS 06811

IMPORTANT INFORMATION FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

Crops: strawberry (outdoor and protected including tunnel), table and wine grapes (outdoor), tomato and aubergine (protected including tunnel and permanent protection with full enclosure).

Maximum individual dose	Maximum total dose	Maximum number of treatments	Latest time of application
Refer to the leaflet attached to the product pack for full details.			

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY PRECAUTIONS applicable to the correct use of this product are detailed within the attached leaflet.

FUNGICIDE

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PROTECT FROM FROST

PROTECT FROM
DIRECT SUNLIGHT

For advice on medical emergencies, fires, spillages or chemical hazards ONLY –
phone Carechem 24 EU:
+44 (0)1235 239670

For technical and non-emergency calls phone +44 (0)845 373 0305

Production date /
Batch number:
see packaging

Authorisation Holder:
CEV S.A.
Zona Industrial
de Cantanhede /
BiocantPark –
Lote 120,
3060-197
Cantanhede,
Portugal

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GROWING TOGETHER

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To access the Safety Data Sheet for this product scan the QR code or use the weblink below:

WEBLINK to specific data sheet on manufacturer's website:

https://certisbelchim.co.uk/pdf/MSDS/Problad_MSDS.pdf

Alternatively, contact your supplier.

IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL FUNGICIDE

Crops	Maximum individual dose (L product/ha)	Maximum total dose	Maximum number of treatments (per 12 months)	Latest time of application
Strawberry (outdoor and protected including tunnel)	3.2 L/ha	19.2 L/ha	6	GS 94 (0-day PHI)
Table and Wine Grapes (outdoor)	3.2 L/ha	19.2 L/ha	6	GS 89 (0-day PHI)
Tomato and Aubergine (protected including tunnel and permanent protection with full enclosure)	3.2 L/ha	19.2 L/ha	6	GS 89 (0-day PHI)

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SAFETY PRECAUTIONS

Operator Protection

Operators must wear adequate work clothing during mixing/loading and application. Avoid contact with skin and eyes.

Environmental protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water/avoid contamination via drains from farmyards and roads.

Storage

Shelf life: 3 years from the date of manufacture.
STORE IN ORIGINAL CONTAINER, tightly closed in a safe, well-ventilated, cool and dry place, preferably within a temperature range of 5°C to 35°C. Protect from direct sunlight. Containers which are opened must be carefully closed and kept upright to prevent leakage. Do not use original packaging or empty containers for other purposes.

Disposal of packaging

Do not use the emptied product containers for other purposes.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose the containers for incineration or recycling at approved collection points.

Do not mix with household waste.

DIRECTIONS OF USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product

PROBLAD is a broad spectrum contact fungicide with no systemic properties for the control of Botrytis and Powdery mildew in strawberries, table and wine grapes, tomato and aubergines as main uses.

PROBLAD is a soluble concentrate formulation containing the aqueous extract from the germinated seeds of sweet *Lupinus albus* as the active ingredient. The lead component BLAD protein present in the extract at 20% w/w is considered responsible for the antifungal activity. PROBLAD activity results from combined actions of the BLAD protein at several targets at the fungal cell. BLAD is able to disturb the cell wall and cell membrane and enter into the fungus cell, inducing inside the cell major changes in cell metabolism from which the most important is the disturbance of the cell metal homeostasis due to its chelating activity on divalent cations, which inactivate multiple enzymes and block several metabolic pathways, resulting in a multi-site mode of action that disrupt nutrient absorption, and cellular reproduction and ultimately lead to the fungal cell death. The BLAD protein is classified in FRAC group BM01 (biological substances with multiple modes of action).

In order to optimize its use, PROBLAD should be integrated into adapted programs, with applications preferably made prior to onset of disease development for preventative control when there is a risk of infection.

For all uses, uniform applications and complete coverage of the crop with the spray solution are essential to ensure it is effective. The spray must be repeated after rainfall or irrigation (> 20 mm) and after new plant growth.

Strawberries (Outdoor, protected including tunnels, Permanent Protection with full Enclosure)

PROBLAD will control *Botrytis cinerea* and Powdery mildew (*Podosphaera* sp., *Oidium* sp., *Erysiphe* sp.). A maximum of 6 application can be made per crop. The rate of application should not be lower than specified to ensure maximum efficacy.

Rate of Application: 3.2 L/ha
Application Timing: BBCH 40-94
Number of applications: 6
Water Volume: 450-1,000 L/ha
Spray Interval: 8 days
PHI: 0 day

Table and Wine Grapes (Outdoor)

PROBLAD will control *Botrytis cinerea* and Powdery mildew (*Erysiphe necator*).

A maximum of 6 application can be made per crop. The rate of application should not be lower than specified to ensure maximum efficacy.

Rate of Application: 3.2 L/ha
Application Timing: BBCH 55-89
Number of applications: 6
Water Volume: 200-1,000 L/ha
Spray Interval: 7 days
PHI: 0 day

Aubergine and Tomato (Protected including tunnels and Permanent protection with full enclosure)

PROBLAD will control *Botrytis cinerea* and Powdery mildew (*Oidium* sp., *Podosphaera* sp., *Leveillula* sp.).

A maximum of 6 application can be made per crop. The rate of application should not be lower than specified to ensure maximum efficacy.

Rate of Application: 3.2 L/ha
Application Timing: BBCH 20-89
Number of applications: 6
Water Volume: 200-1,500 L/ha
Spray Interval: 7 days
PHI: 0 day

Preparation of spray solution

Before use ensure that all application equipment is clean and free of residues from previous spray treatments. Add half the required volume of water and start agitation. Shake the container and pour the required amount of PROBLAD into the sprayer tank. Fill the tank to the required volume whilst maintaining agitation. It is recommended that the spray solution has a pH above 6. Adjust pH if necessary. Apply immediately after mixing. Continuous agitation must be maintained until spraying is complete. Apply immediately after mixing; do not allow spray mix to stand overnight.

Compatibility with mixing partners

PROBLAD can be mixed with many commercially available plant protection products and foliar fertilizers, ensuring the pH of the spray mixture is above 6.0. Follow the most restrictive labelling requirements of any tank-mix product.

Do not tank-mix PROBLAD with products containing a prohibition against tank-mixing.

It is always advisable to verify the compatibility caused by a mixture with an untested product, since the possible incompatibility may depend on factors outside the control of the manufacturer, such as crop stage, climatic conditions, the used water volumes, etc. To determine the physical compatibility of PROBLAD with other products use a jar test. The following procedure must be followed: Pour the specified proportions of the products into a suitable container of one quart of water; mix thoroughly and allow to stand for at least 15 minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered a homogeneous solution and physically compatible. If separation occurs (e.g. oils float to top, clumps of solids form, etc.), the combination is incompatible and cannot be used.

For more details on the compatibility of mixtures, please consult Certis Belchim B.V. local representative.

Integrated Pest Management (IPM):

Integrate PROBLAD into a disease management strategy that follows practices known to reduce disease development and prevent fungicide resistance.

Resistance

Resistance is thought unlikely to occur due to the mode of action of PROBLAD. The BLAD protein lead component is classified by Fungicide Resistance Action Committee (FRAC) in group BM 01, having multi-site contact activity with multiple effects and is thus considered low risk of resistance. This active ingredient has no known cross-resistance to other known classes of active ingredients. However, as part of a resistance management strategy, to avoid resistance build-up within the targeted pathogens, PROBLAD should always be used according to label and respecting the following instructions:

- PROBLAD should always be applied according to the label recommendation of use particularly regarding doses and number of applications.
- A maximum of two sequential applications of PROBLAD may be used before alternating to a labelled fungicide with a different mode of action. Whenever used within spray sequences, alternation with products of different modes of action is recommended.

In general, the repeated use of preparations based on active substances from the same chemical group or with the same mode of action on the same plot can lead to the emergence of resistant organisms. To reduce the risk of developing resistance on the same plot, it is recommended to alternate or combine preparations based on active substances belonging to different chemical groups or with different modes of action.

Tank cleaning

Thoroughly clean sprayer and lines with water after use. To do this, fill up approx. 20% of the tank contents with water while spraying the inner surfaces of the tank with the water jet. Switch on agitator for approximately 2 minutes. Then spray cleaning liquid through the nozzles on the previously treated surface while the agitator is running. The regular cleaning of the crop protection equipment from the outside, in particular the pump unit and linkage, should be part of the normal operational sequence and take place as directly as possible on the field. For this purpose, the equipment manufacturers offer suitable retrofit kits with water storage tanks and cleaning brushes.

This section is not part of the Product Label under the Control of Pesticides Regulations 1986 or the Plant Protection Products Regulations 1995 (as appropriate) and that it provides additional advice on product use at the discretion of the applicant.

CONDITIONS OF SUPPLY

The Seller warrants that the goods shall at the time of delivery to the Buyer conform to the Seller's standard specification but all other conditions and warranties, whether express or implied by statute or custom of the trade or otherwise and whether as to condition, quality, performance, merchantability, fitness for any purpose or otherwise, are expressly excluded and, subject as aforesaid, the Seller shall be under no liability whatsoever, in contract or in tort, for or in respect of any loss or damage whatsoever resulting from or arising out of the goods or supply or use thereof, whether caused by the negligence of the Seller or otherwise. The Seller shall be under no liability in respect of the warranty given above unless the Buyer allows the Seller reasonable opportunity of inspecting the goods where practicable. A consumers statutory rights are not affected.