



ProBlad®

TECHNICAL SHEET

ACTIVE INGREDIENT: BLAD polypeptide 20%*
 * BLAD is a naturally-occurring protein formed during the germination process of sweet lupines (*Lupinus albus*)

PMRA Registration No: 31782

A new Biofungicide providing superior efficacy and multi-site mode of action for decisive disease management

ORIGIN AND COMPOSITION

- ▶ **PROBLAD®** is a biological fungicide of natural origin. It is a concentrate plant extract containing 20% (w/w) of **BLAD protein as a novel and unique active ingredient**.



FORMULATION

- ▶ Liquid formulation (SC): 250 g/L of BLAD
- ▶ Contact fungicide with Translaminar activity
- ▶ Thorough coverage of foliage and fruits is a key factor to ensure optimal performance
- ▶ Spray volume should not exceed the point of run-off
- ▶ Safe and excellent resistance management tool due to its Multi-site MOA

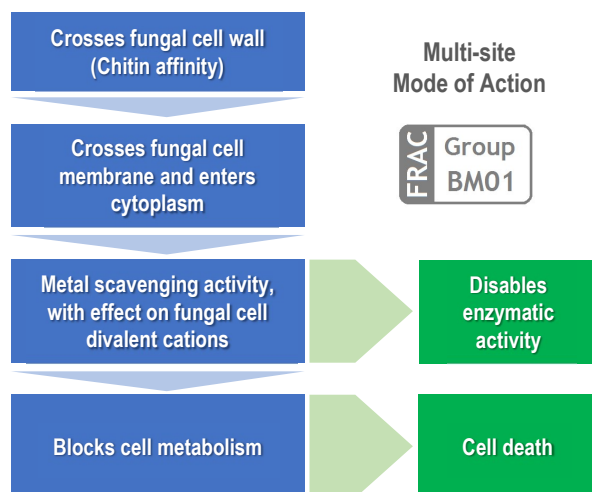
PERFORMANCE

- ▶ Broad spectrum (universal targets in fungal cells)
- ▶ Active against most life stages of disease (spores, hyphae, mycelium and haustoria)
- ▶ Can be integrated in conventional and organic rotational programs with no negative impact on efficacy
- ▶ Preventative (7 to 10-day disease prevention)
- ▶ Curative (up to 8-day reach back activity)
- ▶ Fast knock down effect (less than 24 hours)
- ▶ Not affected by the pH of spray solution, except at pH 5.5
- ▶ Tank mix compatible with most fungicides, insecticides and fertilizers

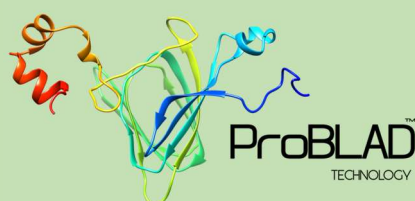
FEATURES AND BENEFITS

FEATURES	BENEFITS
Better performance when applied as preventative but also with curative effect	Highly effective and consistent control against many pathogens in both organic and conventional programs
FRAC Group BM 01. Multisite Mode of Action that allows the rotation with all other listed fungicides	Novel and unique Mode of Action with low risk for developing fungal resistance. Optimum resistance management partner to be integrated in a spray program, both in organic and conventional farming
Low risk active ingredient. Sustainable and Environmentally friendly product	Non-toxic to mammals, birds, aquatic organisms, soil macro and microorganisms, non-target arthropods, beneficial insects, pollinating insects and plants
Compatible with the large majority of the plant protection products (PPP)	Effective disease management tool to be implemented into Integrated Pest Management (IPM) strategies
No Re-Entry Interval (REI) established when product has dried	Allowing tasks within treated area to be completed soon after application
Exempt from Maximum Residue Levels (MRL)	No residues helping growers to manage residues and meet increasing food chain requirements.
No Preharvest Interval (PHI)	May be applied up to and including the day of harvest
Can be applied from the beginning of the crop up to the day before harvest	Selective in all crops, no impact on transformation processes

NOVEL AND UNIQUE MODE OF ACTION (MOA)

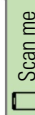


- ▶ **PROBLAD®** fungicide activity works on contact and results from a combined action of **BLAD protein active ingredient** at several targets in the fungal cell. **BLAD** is able to bind to fungal chitin structures, disturbing the cell wall and cell membrane and enters into the fungus cell. Inside the cell induces 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. By depleting the fungal cells in divalent cations, **BLAD** is able to block several metabolic pathways, as these cations are essential co-factors for many enzymes that will be inactivated in their absence. By affecting different metabolic reactions, it targets different metabolic pathways, resulting in a multi-site mode of action. An oxidative stress is then generated inside the cells leading to an apoptotic fungal cell death.
- ▶ **Multi-site targets:** cell wall, cell membrane, cell metabolism.



ENJOY THE EXPERIENCE OF A NEW CONCEPT OF FUNGICIDE

Learn more about PROBLAD:





LABELLED CROPS & TARGETS – BROAD SPECTRUM

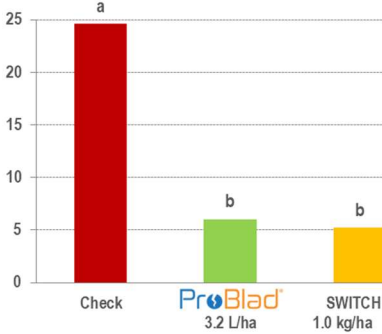
Crop/Group	Target Disease	Rate
GRAPE	Botrytis Grey mold Powdery mildew	1.5 - 3.3 L/ha
STRAWBERRY (Field and greenhouse)	Botrytis Grey mold Powdery mildew	
FRUITING VEGETABLES (Field and greenhouse) Eggplant; Ground cherry, Pepino, Pepper including bell, chili, cooking, pimento and sweet, Tomatillo, Tomato	Botrytis Grey mold	
STONE FRUIT Apricot, Cherry, Nectarine, Peach, Plum, Prune	Monilinia (Blossom blight Brown rot)	
ALMOND	Monilinia (Blossom blight Brown rot)	
LOWBUSH BLUEBERRY	Botrytis blight	



GRAPES

Botrytis - Valencia, SPAIN, 2017

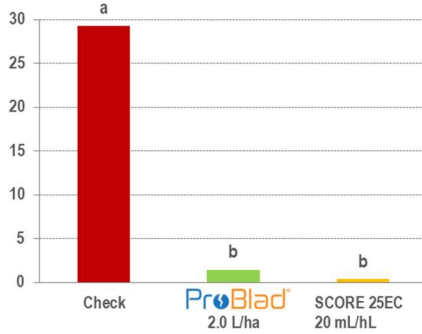
% Severity on bunches



Grape variety: Bobal
3 applications@ BBCH 77, 81, 86-87
Rating 21 days after 3th application (21DAA3)

Powdery mildew - Central Manacedonia, GREECE, 2018

% Severity on bunches



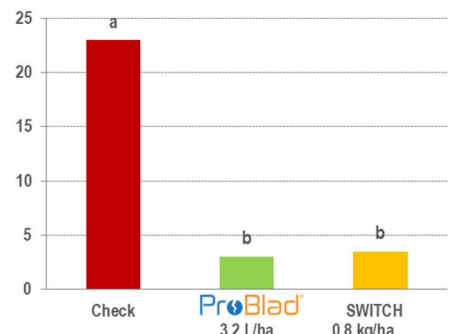
Grape variety: Soultanina
6 applications@ BBCH 72 - 75
Rating 21 days after 6th application (21DAA6)



STRAWBERRIES

Botrytis - Catania/Sicily, ITALY, 2018

% Incidence (damaged fruits)



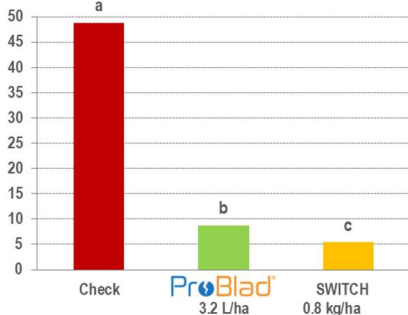
Strawberry variety: Portola
5 applications@ BBCH 61-89 | 7 days interval
Rating 7 days after 5th application (7DAA5)



TOMATO

Botrytis - Naaldwijk/Zuid-Holland, NETHERLANDS, 2017

% Incidence on stems



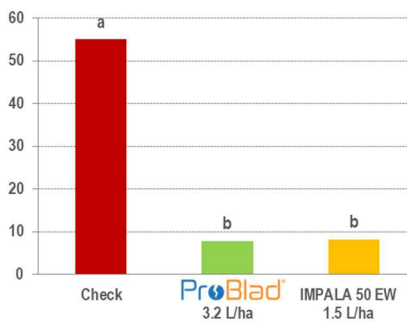
Tomato variety: Merlice
5 applications@ BBCH 61, 63, 64, 68, 70
Rating 6 days after 5th application (6DAA5)



STONE FRUITS

Monilinia (Brown rot) - Valencia, SPAIN, 2017

% Incidence on fruits (Post-Harvest*)



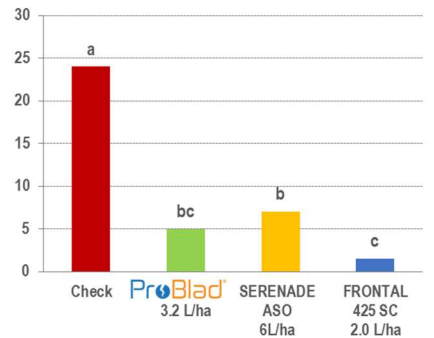
Crop: Peach; Variety: Royal Galdis
5 applications@ BBCH 69, 69, 85, 89, 89
Rating 17 days after 5th application (17DAA5)
*10 days of Storage at room temperature after Harvest



BLUEBERRIES

Botrytis-Placilla, L. B. O'Higgins, CHILE, 2019

% Damaged fruits (Post-harvest*)



Cultivar: Star
4 app@ beginning of bloom; 80-100% bloom, veraison, pre-harvest
*Rating after 30 days storage in cold + 7 days at room temperature

Product for professionals: be caution during handling , storage and application of agrochemical products. Always read and follow all label directions, restrictions and precautions before use.

