

DOWNYCARE®
Fusarium proliferatum
BioFungicide
APPROVED FOR USE IN ORGANIC AGRICULTURE

Introducing DOWNYCARE®

DOWNYCARE® is a biological fungicide based on a selected strain of naturally-occurring beneficial fungus *Fusarium proliferatum* (NCIM 1101) that protects crops from Downy Mildew caused by several pathogenic species of *Basidiophora*, *Bremia*, *Peronospora*, *Phytophthora*, *Plasmopara*, *Pseudoperonospora*, and *Sclerospora*.

It is used as an effective foliar spray to combat Downy Mildew through its antagonism to the pathogenic disease causing fungi.

DOWNYCARE® contains spores and mycelial fragments of *Fusarium proliferatum*. It is formulated as Wettable Powder with CFU count of 1×10^8 / g. DOWNYCARE® is approved for use in Organic Agriculture.

A Historical Brief

Cephalosporium proliferatum was described by Matsushima, T in 1971 . It was later described by Nirenberg, H. in 1976 as *Fusarium proliferatum*

Mode of Action

Substrate Competition for space and Nutrients: *Fusarium proliferatum* competes with the pathogens by colonizing a large area of the affected leaf zone and competes for the plant substrates and nutrients thereby causing the pathogens to starve - Domino effect.

Mycoparasitism: *Fusarium proliferatum* penetrates the pathogen and infects it and derives nutrition from the target pathogenic fungus protoplasm and DOWNYCARE® spores multiply inside target pathogenic fungus body and eventually kill the mildew colony.

Enzyme production: *Fusarium proliferatum* produces certain enzymes which dissolve the host cell wall and penetrate and inactivate the host defense mechanism.

Method of Application

Foliar Application : Mix 5 g. DOWNYCARE® in 1 L of water and spray

Spray volume depends on the crop canopy.

Target Diseases

Downy Mildew disease.

Crops

DOWNYCARE® is suitable for application on grapes, roses, cucurbits, melons and vegetables and other crops where downy mildew is observed.

Compatibility

DOWNYCARE® is compatible with BioPesticides and not with Chemical fungicides.

Shelf Life

DOWNYCARE® is stable for a period of 12 months from the date of manufacturing.

Mass Composition

CONSTITUENT	W/W %	FUNCTION
<i>Fusarium proliferatum</i> (Spores and Mycelia)	01.00%	Active
Moisture	08.00% max	Inactive
Carrier Powder – Kaolin	Q.S	Inactive

BIOLOGICAL COMPOSITION

CONSTITUENT	CFU/g.	FORMULATION
<i>Fusarium proliferatum</i>	1*10 ⁸	Powder

OTHER FORMULATIONS AVAILABLE

<i>Fusarium proliferatum</i> CFU/g	1*10 ⁹	Soluble Powder
<i>Fusarium proliferatum</i> CFU/ml	1*10 ⁹	Liquid
<i>Fusarium proliferatum</i>		Lyophilized

Free from Salmonella, Shigella, E.Coli

Cautions for handling and use of product

1. Avoid inhalation and skin contact while diluting as there could be spillage / splashes of the product
2. Mixing and spraying equipment is to be thoroughly rinsed with water and detergent before using the same equipment for spraying other pesticides.
3. Surplus spray solution should not be disposed in crop lands / stagnant water / flowing water where there is a possibility of causing pollution to natural resources
4. Do not eat / drink / smoke during application.
5. Direct incidence of DOWNYCARE® may cause irritation and therefore it is recommended that the operator should use protective gear viz gloves, apron, mask, eye gear and hood.

Symptoms and Antidotes

Symptoms: Occasional symptoms include head ache and nausea.

Antidote: In the case of ingestion: symptomatic treatment is advised In the case of contact with Eyes: Flush with water liberally for 20 minutes. In case of Skin contact, wash the affected area with plenty of water and soap.

Citations

There are many citations in public domain on effectiveness of *Fusarium proliferatum* as a BioFungicide

Commitment to Nature

- DOWNYCARE® is approved for use in organic agriculture.

- DOWNYCARE[®] can be used as an effective component in IPM programmes, thereby leading to a reduction in use of chemical pesticides/ fungicides and creating a safer environment.
- DOWNYCARE[®] does not lead to residue problems and doesn't cause resistance or resurgence problems.

Benefits from DOWNYCARE[®]

- DOWNYCARE[®] effectively controls Downy Mildew one of the most economically important diseases in economic crops and plantations like grapes, roses, cucurbits, melons and vegetables
- Pathogenic fungi load reduction leads to improved plant health and thereby increased crop productivity.
- DOWNYCARE[®] is earthworm friendly , pet friendly , eco friendly and infant friendly