



BIOINSECTICIDE

Metarhizium brunneum strain Ma 43

LALGUARD M52^{OD}

Broad spectrum bioinsecticide

Effectively protect your crops against pests

LALGUARD M52 OD is a bioinsecticide formulated with a high concentration of *Metarhizium brunneum* strain Ma 43. The technology of encapsulating the spores with oil microdroplets promotes the viability of the entomopathogenic fungus. LALGUARD M52 OD is applied by foliar spray for effective control of crop pests in protected and open field conditions.



LIQUID

MODES OF ACTION

1 ADHESION

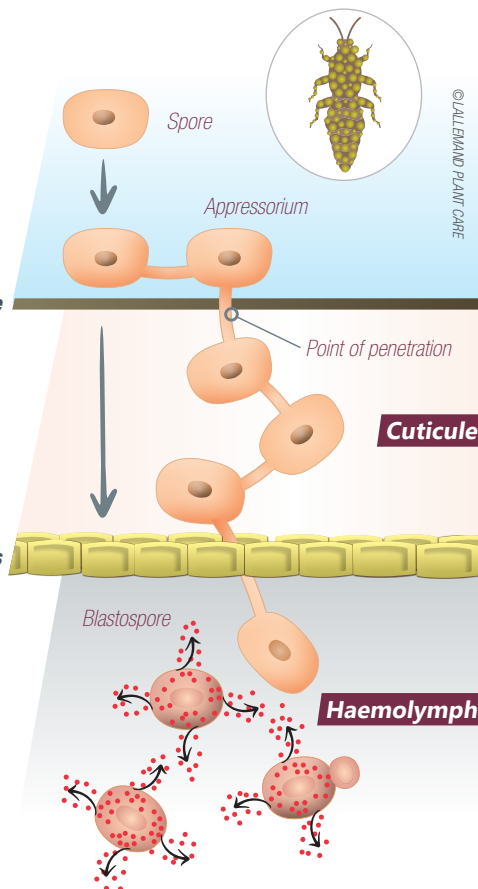
When applied, the fungal spores adhere to the insect cuticle. A germ tube rapidly develops at the point of contact.

2 PENETRATION

The germ tube produces a large variety of enzymes in order to perforate the insect's cuticle completely and gain access to the haemolymph.

3 COLONISATION

The fungus then multiplies in the form of a large number of blastospores, causing progressive necrosis and death within 3 to 7 days.



BENEFITS

- **Proven effectiveness against a broad spectrum of pests:** Thrips (*Thysanoptera*), Whiteflies (*Trialeurodes vaporariorum*, *Bemisia tabaci*), Spider mites (*Tetranychidae*)
- **Formulation suitable for use in protected and open-field conditions**
- **Can be used on a wide range of crops:** strawberry, cucumber, courgette, melon, pumpkin, tomato, pepper, chilli, onion, shallot, garlic, leek and ornamental plants

ADVANTAGES

- **Management of resistance risk**
- **Compatible with Integrated Pest Management (IPM)**
- **No pesticide residues**
- **Can be used in organic farming**

LALGUARD M52^{OD}

↓ ↓ AUTHORIZED USES

| TYPE | CROP | TARGET | DOSE RATE (L/ha) | STAGE | NUMBER OF TREATMENTS |
|------------|--|--------------------------------|------------------|-------|----------------------|
| Protected | Cucumber, courgette, summer squash, melon, winter squash, pumpkin, aubergine | Thrips, spider mites, whitefly | 1.25 L/ha | All | 8 |
| | Strawberry | Thrips, spider mites | | | 8 |
| | Pepper, chili, tomato | Thrips, spider mites, whitefly | | | 8 |
| | Nursery fruit trees | Whitefly | | | 8 |
| | Ornamental plant production | Whitefly | | | 8 |
| Open field | Leek, onion, spring onion, garlic, and shallot | Thrips | | | 6 |

A minimum interval of 3 days must be observed between applications.




🔗 COMPATIBILITY:

In a rotational program, LALGUARD M52 OD is compatible with many fungicides, insecticides and beneficial insects and can be used in Integrated Pest Management (IPM) programs. Please check the compatibility table before mixing with plant protection products of spray in the presence of macro beneficials.

CHARACTERISTICS

- **ACTIVE INGREDIENT:** *Metarhizium brunneum* strain Ma 43 2.10¹² CFU*/L
*CFU: colony forming unit. Enumeration of living micro-organisms capable of multiplying
- **FORMULATION:** oil dispersion (OD)
- **PACKAGING:** 1 L
- **STORAGE:** 24 months between +4°C and +20°C
- **MAPP 19824 PCS 05859**
- **Can be used in organic farming**

📋 USAGE RECOMMENDATIONS

| | CROP GROWTH STAGE | PEST OCCURANCE | HOW TO INCORPORATE | BENEFITS |
|------------|----------------------|---|---|---|
| PREVENTIVE | Early crop season |  First pest appearance | Start the crop season with LALGUARD M52 OD applications, 3 to 7 day intervals | Delays increase of pest infestation |
| | Advanced crop season |  Pest population outburst | Rotate LALGUARD M52 OD with conventional products to knockdown pest populations | Reduces risk of resistance |
| ROTATIONAL | Harvest time |  Pest management | Rotate LALGUARD M52 OD with conventional products | Tolerance exemption reduces residues in harvested crops |

Authorisation holder: DANSTAR FERMENT AG/ LALLEMAND PLANT CARE
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Microbial by nature

LALLEMAND