



# INSECT PROTECTOR

Available size - 1KG, 10KG and 25KG

## CULTIVATE YOUR ORGANIC SOIL HEALTH...

### INTRODUCTION

**PROTECTOR INSECT** contains a consortium of well documented insect control bio agents and organisms. Organisms that produce enzymes, organic acids and toxins that negatively effect and infect only insects. 100% pro-biotic and non-pathogenic to plants and humans.

Insects pose significant challenges to global agriculture and forestry, leading to substantial economic losses and environmental concerns associated with the use of chemical insecticides. Biological control of insects is a sustainable alternative to chemical insecticides. Four microorganisms—*Metarhizium anisopliae*, *Beauveria bassiana*, *Bacillus thuringiensis*, and *Brevibacillus laterosporus*—show promise in managing insect populations.

### METARHIZIUM ANISOPLIAE

*Metarhizium anisopliae* is a naturally occurring entomopathogenic fungus that infects a wide range of insect species. It adheres to the insect cuticle, germinates, and penetrates the insect's body, leading to the production of fungal hyphae that cause internal damage. *M. anisopliae* secretes toxic compounds, including destruxins and proteolytic enzymes, which weaken and kill the host. This fungus is particularly effective against soil-dwelling insects and has shown potential for controlling pests such as root weevils, white grubs, and termites.

### BEAUVERIA BASSIANA

*Beauveria bassiana* is another entomopathogenic fungus with a broad host range. Like *M. anisopliae*, it infects insects through the cuticle, resulting in fungal growth inside the host's body. *B. bassiana* secretes toxic secondary metabolites, including beauvericins and bassianolides, which contribute to insect mortality. This fungus has demonstrated efficacy against a variety of insect pests, such as aphids, whiteflies, caterpillars and thrips.



**Revolutionary  
new approach  
to Phosphorous  
and Potassium  
solubilising  
technology**



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## BACILLUS THURINGIENSIS

Bacillus thuringiensis (Bt) is a Gram-positive bacterium known for its production of insecticidal crystal proteins (Cry toxins). When ingested by susceptible insects, these toxins bind to the insect gut lining causing cell lysis and eventual death. Bt strains are specific to certain insect groups, making them environmentally safe and suitable for targeted pest control. This bacterium has been successfully used against lepidopteran larvae, such as caterpillars, as well as mosquito larvae and other insect pests.

## BREVIBACILLUS LATEROSPORUS

Brevibacillus laterosporus is a spore-forming bacterium that produces a unique antibiotic compound called laterosporulin. This bacterium exhibits activity against various insect pests, including mosquito larvae, corn borers, and white grubs. Laterosporulin targets the insect's gut, disrupting its normal function and leading to mortality.

Metarhizium anisopliae, Beauveria bassiana, Bacillus thuringiensis and Brevibacillus laterosporus are valuable biological control agents in integrated pest management programs. Their ability to target specific insect pests, combined with their eco-friendly nature, makes them attractive alternatives to chemical insecticides.

## BENEFITS

- **Effective Insect Pest Control:**
  - Metarhizium anisopliae and Beauveria bassiana are entomopathogenic fungi that infect and kill insects by penetrating their bodies and releasing toxic compounds.
  - EBacillus thuringiensis (Bt) produces insecticidal proteins that specifically target pest larvae, causing gut disruption and mortality.
- **Eco-Friendly and Sustainable Alternative:**
  - These microorganisms reduce the need for chemical insecticides, minimising environmental and health risks.
- **Broad-Spectrum and Targeted Action:**
  - Effective against various insect pests, including aphids, caterpillars, whiteflies, root weevils, termites, and mosquito larvae.
  - Bt strains specifically target certain insect groups, ensuring minimal impact on non-target species.
- **Integration into Pest Management Strategies:**
  - These biological agents play a key role in integrated pest management (IPM) programs.
  - Contribute to long-term pest control while promoting agricultural sustainability.

## DIRECTIONS FOR USE

Apply 1 kg of water soluble powder per ha at the beginning of the growing season..

- 100L water/ha for in-furrow applications
- 400L water/ha for bulk applications
- Or as a wet seed coat on 1ha equivalent seed
- Can be used with insecticides
- All Fulvigour products can be used and mixed together

## DO NOT APPLY WITH ANY BIOCIDES

### BACTERIA COMPLEX

Bacillus subtilis B80451  
Bacillus Icheniformis Ba0933  
Bacillus amyloliquefaciens BY1907  
Bacillus megaterium Bo1143  
Bacillus coagulans BB0000  
Bacillus clausii B0007

### MICRO ELEMENT

Iron  
Zinc  
Copper  
Manganese  
Boric acid  
Molybdate

### MACRO ELEMENT

Rhodomon  
Asctobacter  
Ca  
Mg  
S  
NPK

### FUNGI

Paecilomyces sp.  
Metarhizium sp.  
Trichoderma  
Mycorrhizae

