



May be used in organic
crop production in
accordance to the NPOP



multiplex[®]



BIO-PRODUCTS



Farmers' first choice since 1974



Extensive use of chemicals in plant growth & protection led to deterioration of soil health and leading to the adverse effects on the environment. So bio-products in agriculture are gaining importance throughout the world. These are the products that are used as alternatives to chemical products.

Bio-products are the products derived and or made of the natural origin ingredients. Microorganisms which are used in the bio-products are sustainable in nature, carrier materials used in the products are biodegradable. These products are non toxic to either plants, soil, environment as well as consumers thus they are eco friendly.

We offer three main categories of bio-products viz bio-fertilizers, bio-pesticides, bio-stimulants. Each product is extremely useful in sustainable and safe agriculture practices.

To understand the mode of action of bio-products we need to understand the potentiality of soil which is now degraded in agriculture fields due to irrespective use of chemicals.

Basically soil has every nutrient which is required for plants to grow healthy and sturdy. Soil in forests can be a better example of how it nurtures every plant, tree, creepers without any intervention of humans or inputs.

To understand the usage of bio-products precisely, using bio-products in agricultural fields makes the soil healthy, solubilizes the nutrients in the soil and makes it available to plants. Products stimulate plant growth leading to better results.

Bio-products are very prospective products in today's agriculture. The regulations in manufacturing and marketing them need to be more simple for the benefit of the farming community and environment at large.



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ORGANIC FERTILIZERS

MULTIPLEX ANNAPURNA (BIO-ENRICHED ORGANIC MANURE)

ACTIVE INGREDIENTS: Decomposed organic matter fortified with vermicompost, Neem Cake, Castor Cake, Coir pith & enriched with millions of beneficial Microorganism. (N, P, K & Zn bacteria min. 5.0×10^6).

MODE OF ACTION: Organic manure increases the water holding capacity in soil and supplies the essential nutrients needed by growing plants. In soils it helps in solubilising phosphorus that are fixed in soil. It also helps in fixing atmospheric nitrogen in to the soil and mobilizes fixed potassium of the soil. Organic acids which are released from decomposing organic matter that helps to reduce alkalinity in soils.



TARGET CROPS, DOSAGE & METHOD OF APPLICATION

Crop	Dosage	Crop	Dosage
Field crop (Vegetables & Flower crops)	90 to 120 kg/ acre	Sugarcane	240 kg/ acre
Coffee/ Cocoa/ Pepper	1 kg/ plant/ year	Grapes	3 to 5 kg/ vine
Tea	25g/ bush	Banana	1 kg/ Plant
Coconut	3 to 5 kg/ palm	Pomegranate/Papaya	0.5 to 1 kg/ plant
Arecanut	0.5 to 2 kg/ palm	Watermelon	150 kg/ acre
Household garden plants/roses	100 g/ Pot	Citrus / Mango	2 to 5 kg /Tree
Cotton	150 kg/ acre		

BENEFITS

- Acts as soil conditioner and there by improves soil structure.
- Helps in better root proliferation.
- It acts as a buffering agent by organically amending the soil pH
- Acts as strong repellent to insects and has larvicidal action. Reduces nematode population.
- Minimizes the use of chemical fertilizer in high consumption areas.

- Increases C:N ratio in the soil
- Increases the productivity in wasteland and low land fields.
- It is rich in humus and free from weed seeds, non-toxic and eco- friendly
- Improves yield both by quality and quantity.

PRECAUTIONS: Annapurna should not be mixed with bactericide/ fungicide/ weedicide

AVAILABLE PACKING: 1 kg & 30 kg

MULTIPLEX MULTIPROM (PHOSPHATE RICH ORGANIC MANURE)

ACTIVE INGREDIENTS: Organic Carbon 10.00%, Total Nitrogen (as N) 0.4% and Total Phosphorus (as P_2O_5) 8.00 % by weight with C:N Ratio of less than 20:1

MODE OF ACTION: MultiProm is a blend of Organic Manure, Inorganic Phosphate fertilizer and Biofertilizer which supplies Phosphorus to Plant. In addition phosphorus solubilizing bacteria that is present in the product produces organic acids that solubilizes unavailable fixed phosphorus present in both acid and alkaline soils and makes it available to plants for a prolonged period even to the consecutive crop.

TARGET CROPS: All Crops

DOSAGE: 25 kg per acre

METHOD OF APPLICATION: After final land preparation broadcast 25 kg of MultiProm over an acre before sowing or transplanting.

BENEFITS

- Fine particles of inorganic rock phosphate in Multiplex MultiProm enhances its agronomic efficiency
- Organic Manure component in Multiplex MultiProm can prevent ions of other elements from converting phosphorus to insoluble and unavailable form
- Increases beneficial microbial diversity in the soil.
- Beneficial Microorganisms in MultiProm produces essential growth hormones like gibberellins, auxins, vitamins, that are vital for the plant growth and development
- Helps in the amendment of problematic soils like Acid and Saline Soils



- Multiplex MultiProm also supplements other nutrients like Copper, Zinc Iron, calcium and Magnesium
- Multiplex MultiProm provides better plant growth and improves yield both by quality and quantity.

AVAILABLE PACKING: 10 kg & 25 kg.



MultiProm - Helps in plants robust growth & development

MULTIPLEX GREEN PHOSPHORUS

ACTIVE INGREDIENT: Organic Carbon 10.00%, Total Nitrogen (as N) 0.4% and Total Phosphorus (as P2O5) 8.00 % by weight with C: N Ratio of less than 20:1

MODE OF ACTION: Multiplex Green Phosphorus Contains Natural Minerals, Organic manure, and Consortium of beneficial microorganisms. Multiplex Green Phosphorus supplies good amount of readily available Phosphorus and releases additional phosphorus by conversion of fixed phosphorus from soil to available phosphorus to Plants. Multiplex Green Phosphorus is the best eco-friendly alternative for conventional Phosphorus fertilizer like DAP for meeting the phosphate requirements and supplying a good amount of Nitrogen and other essential nutrients required for growing plants for a prolonged period.

TARGET CROPS: All Crops

DOSAGE: 30 to 60 kg per acre

METHOD OF APPLICATION: Broadcast 30 to 60 kg of Multiplex Green Phosphorus over an acre of land before sowing or transplanting & second application at earthing up stage if required.

For perennial crops apply 100 to 150 g of Multiplex Green Phosphorus per Plant, we recommend two applications per year.

BENEFITS

- Totally derived from natural resource of organic matter and is blended with beneficial microbes.
- Organic matter components in Multiplex Green Phosphorus can prevent ions of other elements from conversion of phosphorus to insoluble and non-available form.



- Microbes Secrete organic acids which cause the slow dissolution of phosphorus from the source material of Multiplex Green Phosphorus and hence allows more phosphorus uptake by the roots of the plants.
- Supplies other essential nutrients like Nitrogen, Calcium, Magnesium and other Micronutrients to the plants.
- Enriches organic matter content in soil, buffers soil pH, prevents compaction of soil and neutralizes toxicity of salts.
- Multiplex Green Phosphorus is free from heavy metal contaminants, non-hazardous, non-residual, non-pollutant elements and is safe to use.
- Multiplex Green Phosphorus provides better plant growth and improves yield both by quality and quantity.

AVAILABLE PACKING: 30 kg

MULTIPLEX PARAMPARA

ACTIVE INGREDIENTS: Organic Carbon 18.00 %, Total Nitrogen (as N) 1.0%, Total Phosphorus as (P_2O_5) 0.8 % and Potassium (K_2O) 0.8% by weight, minimum.

MODE OF ACTION: Multiplex Parampara is organic fertilizer produced by bio conversion of organic waste materials by earth worms. Earthworms excrete globular soil aggregate casts which are microaggregates i.e., interface between plant residues, microorganisms, and mineral particles. These casts contain nitrogen, phosphorus, potassium, other essential nutrients and are rich source of plant growth promoting substances such as auxins and cytokinins.

TARGET CROPS: All Crops

DOSAGE: After land preparation broadcast Multiplex Parampara 500 kg or 250 kg per acre along with FYM and for Plantation crops 100 to 250 g/ plant twice a year.

BENEFITS

- Helps in improving soil structure and texture
- Helps in improving the water holding capacity of the soil
- Acts as a buffer for maintaining soil pH at optimum level
- Improves growth and multiplication of soil micro-organisms which are beneficial to plants
- Helps in profuse root growth and better aeration of roots.
- Improves the yield both by quality and quantity

AVAILABLE PACKING: 1 kg & 50 kg



PARAMPARA - Well decomposed vermicompost

BIO-FERTILIZERS

MULTIPLEX SUNRISE (RHIZOBIUM)

(A symbiotic beneficial bacterium for legumes)

ACTIVE INGREDIENT: *Rhizobium leguminosorum* (Min. 1×10^8 CFU/ml for Liquid Based and min. 5×10^7 CFU/gm for Carrier Based)

MODE OF ACTION: Multiplex Sunrise fixes aerial nitrogen into plant-usable form i.e ammonium ions (NH_4^+) into the soil by establishing a symbiotic association with legumes, Normally the bacteria enters the root hairs, multiply there and forms a characteristic nodule like structures in the root system.

TARGET CROPS: Leguminous crop like Beans, Soybean, Cluster Beans, Cow Pea, Red Gram, Green Gram, Black Gram, Ground nut and many more legume crops.

DOSAGE:

Liquid based: 1 to 2 litres/ acre

Carrier based: 2 to 5 kg/ acre

METHOD OF APPLICATION

- **Seeds Treatment:** Mix 100 ml or 500 g Multiplex Sunrise in 500 ml rice starch (ganji)/500 ml jaggery syrup and coat the seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml Multiplex Sunrise in 50 liter water and dip the roots of seedlings for 10 to 20 min. before sowing.
- **Nursery:** Mix 1 kg or 200 ml Multiplex Sunrise with 10 kg dried farmyard manure/ Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** Mix 4 to 5 kg or 2 litres of Multiplex Sunrise mix with 100 kg dried farmyard manure/ Multiplex Annapurna then broadcast to 1 acre of land.



- **Drip Irrigation:** Mix 2 litres Multiplex Sunrise in 200 liter water and irrigate through drip or for 1 acre.

BENEFITS

- In crops like Ground nut, Bengal gram, Cow pea, Green gram and Soya bean it leaves behind 20 to 30 kg nitrogen per hectare for succeeding crop
- It increases the yield by about 15 to 20 %.

PRECAUTIONS: Multiplex Sunrise should not be mixed with bactericide/ fungicide/ weedicide during application.

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr, 5 Ltr

Powder: 1 kg



Profuse formation of root nodules



Sunrise (Rhizobium)

MULTIPLEX AADHAR (AZOSPIRILLUM)

(A non-symbiotic soil dwelling free living beneficial bacteria)

ACTIVE INGREDIENT: *Azospirillum brasilense*
(Min. 1×10^8 CFU /ml for Liquid Based & min. 5×10^7 CFU /gm for Carrier Based)

MODE OF ACTION: Multiplex Aadhar helps to fix aerial nitrogen into the soil by means of some metabolic action of *Azospirillum brasilense*, resulting in soil health improvement by increasing the available natural nitrogen content for the plant.

TARGET CROPS: Cereals, Millets, Pulses, Oilseeds, Fibre Crops, Sugar cane, Forage Crops, Plantation crops, Vegetables, Fruits, Spices, Flowers, Medicinal crops, Aromatic Crops, Orchards and Ornamentals.

DOSAGE: Liquid based: 1 to 2 litres/ acre
Carrier based : 2 to 5 kg/ acre

METHOD OF APPLICATION

- **Seeds Treatment:** Mix 100 ml or 500 gm AADHAR in 500 ml rice starch (Ganji) / 500 ml jaggery syrup and coat the seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml AADHAR in 50 liter water and dip the roots of seedlings for 10 to 20 minutes before sowing.
- **Nursery:** Mix 1 kg or 200 ml AADHAR with 10 kg dried farmyard manure/Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** 4 to 5 kg or 2 litres of AADHAR mix with 100 kg dried farmyard manure/ Multiplex Annapurna then broadcast to 1 acre of land.
- **Drip Irrigation:** Mix 2 litres AADHAR in 200 liter water and irrigate through drip for 1 acre.



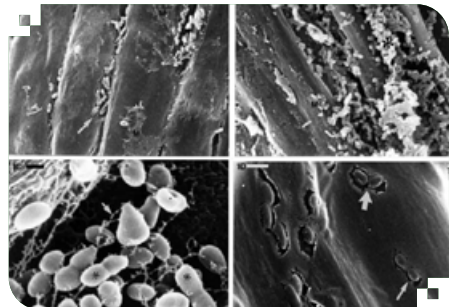
BENEFITS: It produces growth promoting substances like IAA, GA, Cytokinin & Vitamins that have beneficial effects on crop growth.

PRECAUTIONS: AADHAR should not be mixed with bactericide/ fungicide/ weedicide during application.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr

Powder: 1 kg



AADHAR (AZOSPIRILLUM) - Colonization of wheat roots

MULTIPLEX ALGA-RHYTHM

ACTIVE INGREDIENT: *Azospirillum spp.* (Min. 1×10^8 CFU/ml) and Metabolites of Selective Micro Algae Species.

MODE OF ACTION: Multiplex Alga-rythm is a Bio revolutionary product which plays a vital role as plant growth promoter. On application it produces an array of organic compounds that are important sources of carbon which helps in root growth thereby more absorption of essential nutrients by the plants. It accelerates the translocation of nutrients from vegetative part to reproductive part. Initiates the synthesis of hormones, proteins, enzymes, amino acids there by inducing vigorous plant growth, flowering and increases fruit setting.

TARGET CROPS: All Crops

DOSAGE & METHOD OF APPLICATION

Foliar Spray: Mix 3 ml of Multiplex Alga-rythm in one litre of water and spray on both the surfaces of the leaves. We recommend two sprays. First spray 20 to 25 days after sowing and Second spray 15 days after first spray. For better results mix Multiplex Maxiwet at one ml or Multiplex Nagastha-180 at 0.3 ml per litre of prepared spray solution.

BENEFITS

- Helps plants to uptake essential nutrients and improves nutrient assimilation
- Helps profuse root formation, increases root length, girth of root and density of root hairs.
- Induces resistance against abiotic stress mediated by antioxidants osmotic adjustment.
- Increases number of tillers, branches, length of internodes in Plant



- Increases the number of tubers, size of bulbs, accelerates photosynthetic activity and imparts more green color to leaves.
- Improves yield both by quality and quantity.

AVAILABLE PACKING:

100 ml, 250 ml, 500 ml & 1 Litre



Micro Algae Culture

MULTIPLEX AZAB (AZOTOBACTER)

(A non-symbiotic soil dwelling free living beneficial bacteria)

ACTIVE INGREDIENT: *Azotobacter chroococcum*
(Min. 1×10^8 CFU/ml for Liquid Based & min. 5×10^7 CFU/ gm for Carrier Based)

MODE OF ACTION: Multiplex AZAB helps to improve soil fertility by fixing the atmospheric nitrogen into the soil in the form of ammonium/ nitrate ions through some metabolic action of *A. chroococcum* in soil.

TARGET CROPS: Cereals, Millets, Pulses, Oilseeds, Fibre Crops, Sugar Crops, Forage Crops, Plantation crops, Vegetables, Fruits, Spices, Flowers, Medicinal crops, Aromatic Crops, Orchards and Ornamentals.

DOSAGE: Liquid based: 1 to 2 litres/ acre
Carrier based (Granular – Powder): 4-5 kg/ acre

METHOD OF APPLICATION

- **Seeds treatment:** Mix 100 ml/ 500 gm AZAB in 500 ml rice starch (Ganji)/ 500 ml jaggery syrup and coat the seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml AZAB in 50 liter water and dip the roots of seedlings for 10 to 20 min before sowing.
- **Nursery:** Mix 1 kg or 200 ml AZAB with 10 kg dried farmyard manure/ Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** 4 to 5 kg or 2 litres of AZAB mix with 100 kg dried farmyard manure/ Multiplex Annapurna then broadcast to 1 acre of land.
- **Drip Irrigation:** Mix 2 litres AZAB in 200 liter water and irrigate through drip for 1 acre



BENEFITS

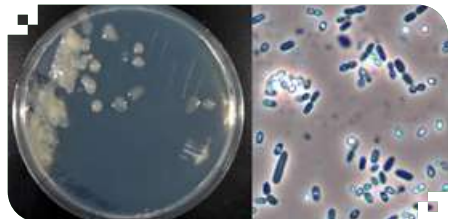
- Increases soil fertility by fixing aerial nitrogen into soil 20-40%.
- The bacteria also produce, growth promoting substance phytohormones like Auxins, IAA, GA, Cytokinin's & Vitamins that have beneficial effects on crop growth.

PRECAUTIONS: AZAB should not be mixed with bactericide/ fungicide/ weedicide.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr

Powder: 1 Kg - **Granular:** 4 kg



AZAB (AZOTOBACTER) - Pure culture

BIO-FERTILIZER

MULTIPLEX MADHOO (ACETOBACTER)

(A non-symbiotic soil dwelling free living beneficial bacteria)

ACTIVE INGREDIENT: *Acetobacter diazotrophicus*
(Min. 1×10^8 CFU / ml for Liquid Based & min. 5×10^7 CFU /gm for Carrier Based)

MODE OF ACTION: Assimilates atmospheric nitrogen in the soil (biological nitrogen fixation) thus helps us to reduce the quantity of application in chemical nitrogenous fertilizers. The bacterium is also known for stimulating plant growth.

TARGET CROPS: Sugarcane, Sorghum, Tea, Coffee, Pineapple, Mango, Potato, Banana

- **DOSAGE: Liquid based:** 1 to 2 litres/ acre
Carrier based (Granular – Powder): 4 to 5 kg / acre

METHOD OF APPLICATION

- **Seeds treatment:** Mix 100ml or 500 gm MADHOO in 500 ml rice starch (ganji)/500 ml jaggery syrup and coat the seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml MADHOO in 50 liter water and dip the roots of seedlings for 10 to 20 min. before sowing.
- **Nursery:** Mix 1 kg or 200 ml MADHOO with 10 kg dried farmyard manure/Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** 4 to 5 kg or 2 litres of MADHOO mix with 100 kg dried farmyard manure/ Multiplex Annapurna then broadcast to 1 acre of land.
- **Drip Irrigation:** Mix 2 litres MADHOO in 200 liters water and irrigate through drip for 1 acre.



BENEFITS

- Aids its host plant in several different ways besides nitrogen fixation.
- Increases crop yield by about 20%

PRECAUTIONS: MADHOO should not be mixed with bactericide/ fungicide/ weedicide.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr
Powder: 1 Kg



MADHOO (ACETOBACTER) - Bacteria colonies

MULTIPLEX DURGA (PHOSPHATE SOLUBILISING BACTERIA)

(A potential soil dwelling beneficial bacterial)

ACTIVE INGREDIENT: *Bacillus megaterium* (Min. 1×10^8 CFU/ml for Liquid Based & min. 5×10^7 CFU /gm for Carrier Based)

MODE OF ACTION: Multiplex DURGA helps to solubilize the complex form of unused inorganic phosphates present in the soil and makes it available to the plants in a very simpler form by the action of some organic acids like citric acid, succinic acid, lactic acid, gluconic acid etc by means of metabolic action of the potential bacteria, *B. megaterium*.

TARGET CROPS: All crops

DOSAGE: Liquid based: 1 to 2 litres/ acre
Carrier based (Granular – Powder): 4 to 5 kg / acre

METHOD OF APPLICATION

- **Seeds treatment:** Mix 500 gm DURGA in 500 ml rice starch (ganji)/500 ml jaggery syrup and coat the seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml DURGA in 50 liter water and dip the roots of seedlings for 10 to 20 min. before sowing.
- **Nursery:** Mix 1 kg or 200 ml DURGA with 10 kg dried farmyard manure/ Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** 4 to 5 kg/ 2 litres of DURGA mix with 100 kg dried farmyard manure/Multiplex Annapurna then broadcast to 1 acre of land.
- **Drip Irrigation:** Mix 2 litres DURGA in 200 liter water and irrigate through drip for 1 acre.



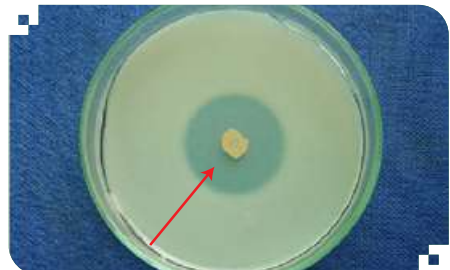
BENEFITS

- Releases phosphorous from the soil
- Enhances the yield of Oats, Mustard, Maize, Rice, Sorghum, Barely, Chickpea, Soybeans, Groundnut, Sugar beet, Cabbage & Tomato to the extent of 10 to 20%.

PRECAUTIONS: DURGA should not be mixed with bactericide/ fungicide/ weedicide.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr
Powder: 1 Kg - **Granular:** 4 kg



DUGRA (PSB) Solubilising Phosphorus

MULTIPLEX TRISHUL (MYCORRHIZAL BIO-FERTILISER)

(Vesicular Arbuscular Mycorrhiza - VAM)

ACTIVE INGREDIENT: Root fungus - *Mycorrhizal spp.* (10 spore/gm and 1200 IP/g determined by MPN method with 10 fold dilution)

MODE OF ACTION: The major function of VAM is their ability to exchange nutrients between their surroundings and their host plant. With the increase in root surface area and the protection they offer to the plant's roots, the fungus can acquire a lot of nutrients for its host. This symbiotic association enables plants for better utilization of nutrients mainly phosphorus.

TARGET CROPS: All crops

DOSAGE:

- **Liquid based:** 1 to 2 litres / acre
- **Carrier based (Granular – Powder):** 4 to 8 kg / acre

METHOD OF APPLICATION

- **Seeds Treatment:** Mix 200 ml or 1 to 2 kg of TRISHUL with Rice Ganji (1:1) to make a thick slurry. The seeds required for an acre of land should be coated with the slurry and shade dry the seeds for 30 mins before sowing.
- **Soil Application for Nursery:** Mix 250 ml or 1 to 2 kg Multiplex TRISHUL with 50 kg dried farmyard manure/ Multiplex Annapurna and apply for nursery of one acre.
- **Soil Application Main Field:** Mix 1 litre or 4 to 5kg Multiplex TRISHUL with 100 kg dried farmyard manure/ Multiplex Annapurna and broadcast to one acre.
- **Drenching through drip irrigation:** Mix 1 litre of TRISHUL in 200 litre of water and drench one acre of land through drip irrigation.



BENEFITS

- Plants have high concentration of phosphorus compared to non-treated plants
- VAM acts as extension of roots in search of nutrition and water under stress condition.
- Induces resistance to fungal root diseases like root wilt, root rot and suppress the nematode infestation

PRECAUTIONS: Do not mix it with any bactericide/ fungicide/ weedicide.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr

Powder: 1 Kg - **Granular:** 4 kg & 10 kg



TRISHUL - Better root elongation & increases P solubilization

MULTIPLEX TRISHUL PLUS (MYCORRHIZAL BIO-FERTILISER)

(Vesicular Arbuscular Mycorrhiza - VAM)

ACTIVE INGREDIENT: Root fungus - *Mycorrhizal species* (10 spores/gm and 1200 IP/g determined by MPN method with 10-fold dilution) & *Consortium of NPK Microbes* (1×10^8 CFU/gm)

MODE OF ACTION: Root fungi in Trishul Plus are obligate in nature and develops a symbiotic association with root system of the plant and helps in getting water and phosphorus for better growth under stress condition. The additional microbe ensures a complete healthy ecosystem of the plant for better growth by delivering other essential nutrients.

TARGET CROPS: All crops

DOSAGE: Carrier based (Granular): 4 to 8 kg/acre

METHOD OF APPLICATION

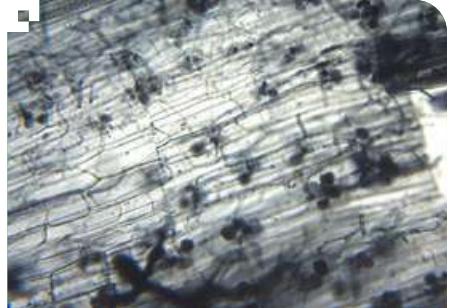
- TRISHUL PLUS need to be delivered at root zone by following any method
- **Soil Application Main Field:** Mix 8 kg Multiplex Trishul Plus with 100 kg dried farmyard manure / Multiplex Annapurna and broadcast to one acre.

BENEFITS

- Multiplex Trishul Plus solubilizes fixed phosphorus in soil and makes it available to the plants
- Helps is assimilation of NPK and other secondary nutrients Like Ca, Mg, S, and other Micronutrients.
- Induces drought resistance in Plants.

PRECAUTIONS: Multiplex Trishul Plus should not be mixed with any chemical pesticides and weedicides.

AVAILABLE PACKINGS: Granular: 1 kg & 4 kg



TRISHUL PLUS - Better root elongation & increases nutrient uptake

BIO-FERTILIZER

MULTIPLEX SHAKTI (POTASH MOBILIZING BACTERIA)

(A potential soil dwelling beneficial bacterial)

ACTIVE INGREDIENT: *Fratureia aurentia* (Min. 1×10^8 CFU /ml for Liquid Based & min. 5×10^7 CFU /gm for Carrier Based)

MODE OF ACTION: Multiplex SHAKTI utilizes carbon source from the soil or from root exudates and mobilizes the fixed and unused potash content in the soil into its simpler & ionic form which gets readily available for the better growth of plants.

TARGET CROPS: All crops.

DOSAGE

- **Liquid based:** 1 to 2 litres/ acre
- **Carrier based (Granular – Powder):** 4 to 5 kg / acre

METHOD OF APPLICATION

- **Seeds Treatment:** Mix 100 ml or 500 gm SHAKTI in 500 ml rice starch (Ganji)/ 500 ml jaggery syrup and coat the seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml SHAKTI in 50liter water and dip the roots of seedlings for 10 to 20 min. before sowing.
- **Nursery:** Mix 1 kg or 200 ml SHAKTI with 10 kg dried farmyard manure/Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** 4 to 5 kg or 2 litres of SHAKTI mix with 100 kg dried farmyard manure/Multiplex Annapurna then broadcast to 1 acre of land.
- **Drip Irrigation:** Mix 2 litres SHAKTI in 200-liter water and irrigate through drip for 1 acre



BENEFITS

- Helps to mobilize the potassium from soil to Plants, there by promoting photosynthesis and transpiration.
- Improves tolerance of plants of various stress/drought.
- Reported to enhance the yield of 10 to 20%.
- Application of 25% of chemical potassium fertilizer can be reduce
- This bacteria survives in the pH range of 5 to 11 and temperature range of 35 to 42°C.
- Multiplex Shakti is recommended for all types of soils (highly acidic as well as alkaline) and all types of crops.

PRECAUTIONS: SHAKTI should not be mixed with bactericide/ fungicide/ weedicide.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr
Powder: 1 Kg

MULTIPLEX ZINC - B (ZINC SOLUBILIZING BIO-FERTILIZER - ZSB)

(A potential soil dwelling beneficial bacteria)

ACTIVE INGREDIENT: *Pseudomonas straiata*
(Min. 1×10^8 CFU /ml for Liquid Based & min.
 5×10^7 CFU /gm for Carrier Based)

MODE OF ACTION: Multiplex Zinc-B contains Zinc solubilizing bacteria (ZSB) that are capable of solubilizing insoluble zinc containing compounds/ minerals in soil and makes it available for the plants. This bacterial based product that solubilises Zinc has shown promising result in various crops in improving yield and plant vigour.

TARGET CROPS: Rice, Maize, Wheat, Millets, Pulses, Oilseeds, Fibre Crops, Sugarcane, Forage Crops, Plantation crops, Vegetables, Fruits, Spices, Flowers, Medicinal plants, Aromatic plants, Orchards and Ornamentals.

DOSAGE

- **Liquid based:** 1 to 2 litres/ acre
- **Carrier based (Granular – Powder):** 4 kg / acre

METHOD OF APPLICATION

- **Root Dipping:** Mix 250 ml of Multiplex ZINC-B in 50 litres of water and dip the roots of seedlings for 20 to 30 minutes before transplanting.
- **Drip Irrigation:** Use Multiplex ZINC-B at 1 litre per acre either individually or by mixing with other ingredients during drip irrigation of both field and protected cultivation.
- **Soil Application:** Multiplex ZINC-B should be used as soil application. Mix 4 Kg or 1 litre of Multiplex ZINC-B with 30 kg of Multiplex Annapurna / Farmyard Manure and apply over one acre of land.



BENEFITS

- Multiplex ZINC-B effectively solubilizes insoluble zinc containing compounds/ minerals of the soil and makes it available for the plants and makes it assimilable in plants.
- Improves both plant and soil health and aids in soil remediation.
- Eliminates Zinc deficiency in plants.
- Improves yield both by quality and quantity.
- Use Multiplex ZINC-B along with other NPK fixing/ solubilizing bacteria so that there will be an added effect on growth and yield.

PRECAUTIONS: Do not mix with bactericide/ fungicide/ weedicide.

AVAILABLE PACKINGS

Liquid: 250 ml, 500 ml, 1 Ltr
Granular: 4 kg

CONSORTIUM OF BIOFERTILIZERS & DECOMPOSER

MULTIPLEX NALPAK (LIQUID & CARRIER BASED CONSORTIA)

(Bio-NPK)

ACTIVE INGREDIENTS: *Azotobacter choococcum* (N₂ fixing bacteria), *Bacillus megaterium* (P-solubilizing bacterial), *Frateriaurentia* (K-mobilizing bacteria) (CFU minimum in a mixture of any 2 or more: 1.5x10⁸ CFU /ml & 3x10⁷ CFU /gm)

MODE OF ACTION: Nalpak delivers a triple mode of action in enhancing NPK content in the soil. *A. choococcum* fixes atmospheric nitrogen into the soil, *B. megaterium* makes available phosphorus by solubilizing complex Phosphates present in the soil and *F. aurentia* helps to mobilize unused potash in the soil for the ready use of plants.

TARGET CROP: All Crops

DOSAGE: Liquid based: 1 to 2 litres/ acre

Carrier based: 2 to 5 kg/ acre

METHOD OF APPLICATION

- **Seeds Treatment:** Mix 100ml or 500 gm NALPAK in 500 ml rice starch (ganji)/500 ml jaggery syrup and treat seeds required for one acre. Keep the treated seeds for shade drying for an hour before sowing.
- **Seedling Root Dip:** Mix 250 ml NALPAK in 50 liter water and dip the roots of seedlings for 10 to 20 min. before sowing.
- **Nursery:** Mix 1kg or 200 ml NALPAK with 10 kg dried farmyard manure/ Multiplex Annapurna and apply for nursery which has seedlings for one acre.
- **Main Field/ Soil Application:** 5 kg or 2 litres of NALPAK mix with 100 kg dried farmyard manure/Multiplex Annapurna then broadcast to 1 acre of land.
- **Drip Irrigation:** Mix 2 litres NALPAK in 200 liter water and irrigate through drip for 1 acre.



BENEFITS

- Improves physical, chemical, and biological properties of soil
- Secretes amino acids, vitamins and growth promoting substances like IAA, GA and Cytokines which helps in better growth and development of plants
- Provides Nitrogen, Phosphorus & Potash to the crop.
- Increases crop yield by 10 to 30%

PRECAUTIONS: NALPAK should not be mixed with bactericide/ fungicide/ weedicide

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr

Powder: 1 Kg & 5 kg

MULTIPLEX ORGANIC MAGIK

(Agriculture grade bio fertilizer, growth promoter and decomposer)

ACTIVE INGREDIENTS: Phosphate solubilizing fungal Bio-Fertilizer along with PGPR bacterial consortium (Min. 1×10^7 spores/ml in Liquid Based & min. 1×10^6 spores/gm in Carrier Based)

MODE OF ACTION: The group of multiple strains of microorganisms in Organic Magik breaks down the nutrients in the hard to decompose plant materials like straw/stubbles, fibre, Coir etc., and release carbon, nitrogen, phosphorus and other nutrients that are critical for plants and also make them easily available to growing plants and other beneficial organisms.

TARGET CROPS: All crops

DOSAGE: Liquid based: 1 to 2 litres / acre

Carrier based: 2 to 5 kg / acre

METHOD OF APPLICATION

Granules - Apply 5 kg Organic Magik directly to soil by broadcasting method/spot application. For long duration crops apply once in three months.

Aqueous suspension - Drip irrigation at the rate of 1 to 2 litres per acre by diluting in 400 liters of water. For long duration crops, application can be repeated at 60 days interval.

Foliar Application - Apply at the rate of 2 to 5 ml per Lt of water, 2 to 3 sprays at 15 days intervals

BENEFITS

- Natural way of suppressing soil-borne pathogens
- Enhances natural decomposition process in soil
- Helps in solubilizing/mobilizing the fixed nutrients from soil rhizosphere, thereby increasing uptake of nutrients by plants.



- Produces plant growth promoting hormones there by improve plant health
- Improves crop yield both by quality and quantity

PRECAUTION: Maintain minimum soil moisture at the time of application and thereafter. Don't mix with any bactericides, fungicides and other harsh chemicals.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr, 5 Ltr

Granular: 1 kg & 5 kg



OM Liquid

OM Granules

Organic Magik Improves overall plant & soil health

CONSORTIUM OF BIOFERTILIZERS & DECOMPOSER

MULTIPLEX SAGAR (COMPOST POLY CULTURE)

(A consortium of potential microbial decomposer + Nutrient enhancer)

ACTIVE INGREDIENTS: Decomposer: *Trichoderma viride*, *Phanerochyte chrysosporium*, *Aspergillus awamori*. Nutrient enhancer: *Azotobacter choococum* and *Bacillus megaterium* (Min. 1×10^8 CFU /ml in Liquid Based & min. 5×10^7 CFU /gm in Carrier Based)

MODE OF ACTION: Potential fungal and bacterial microorganisms mixed with organic waste material gets activated and multiply many folds. During their growth, they utilize carbon source and secrete certain enzymes which helps to degrade the lignin and cellulose content of organic waste by decomposition.

TARGET CROP: All Crops

DO dosage & METHOD OF APPLICATION

- First spread the press mud/agriculture waste in one corner of main agricultural field, up to 1.5 to 2 ft height.
- Apply water just to moisten the press mud/paddy/ wheat straw.
- Mix 1 kg or 200 to 500 ml of SAGAR compost polyculture in 10 litre of water and spray on one ton of compost material. Above this heap add press mud/ agriculture wastes to a height of another 2 ft and repeat the application of water and culture.
- Make another layer apply water and culture.
- After 30 days give one turn and if necessary, add some quantity of water.
- After 45 days the compost is ready for application to field.

BENEFITS

- Faster decomposition of organic matter



- The beneficial bacterial population helps to enrich the decomposed material with nutrients like Nitrogen, Phosphorus to make it a complete food for the plant.

PRECAUTIONS: Maintain optimum moisture content during the process of decomposition by spraying water.

AVAILABLE PACKING

Liquid: 100 ml, 1 Ltr

Powder: 1 kg & 5 kg



Helps in decomposition of organic matter

MULTIPLEX DECOMPOSER

ACTIVE INGREDIENTS: Consortium of Effective decomposing microorganisms of fungal and bacterial species.

MODE OF ACTION: Multiplex Decomposer with effective consortia of microbes transforms organic waste through biochemical decomposition of organic matter by utilizing carbon source from complex organic matter and secrete certain enzymes which helps to degrade lignin and cellulose content of organic waste resulting in enriched organic manure through mineralization of nutrients which are easily available to plants.

TARGET CROPS: All crops

DOSAGE & METHOD OF APPLICATION

- First spread the organic/ agricultural waste in one corner of agricultural field, up to 1.5 to 2 feet height.
- Mix 100 ml of Multiplex Decomposer in 200 liters of water and spray all over the heap of organic/ agriculture waste.
- After 30 days give one turn and if necessary moist the heap
- After 45 days the compost is ready for application

BENEFITS

- Contains active consortia of microbes that effectively decompose organic waste within a short span of time
- Balances C: N ratio which is very vital for nutrient availability for plants
- Helps the mineralization of nutrients and makes soil fertile and more productive
- Effectively recycles organic waste into enriched organic manure thereby reducing inorganic fertilizers application



- Helps to increase beneficial micro diversity in the soil
- Reduces pest and pathogen attacks

PRECAUTION: Maintain minimum soil moisture at the time of application and thereafter. Don't mix with any bactericides, fungicides and other harsh chemicals

AVAILABLE PACKINGS: 100 ml



Helps in faster decomposition of organic matter

BIO CROP PROTECTANTS (BIO-PESTICIDES FOR CROP DISEASE)

MULTIPLEX NISARGA (BIO-FUNGICIDE)

(A potential formulation of beneficial fungal bio pesticide)

ACTIVE INGREDIENT: *Trichoderma viride* 1.5% W.P. / *Trichoderma viride* 5% L.F (Min. 2×10^8 CFU /ml for Liquid Based & min. 2×10^6 CFU /gm for Carrier Based)

MODE OF ACTION: NISARGA, potential fungal bioagent can also suppress other pathogenic fungus by means of antibiosis (Suppression by means of secondary metabolites) and competition for nutrients. Nisarga secretes cellulase and chitinase enzymes which destroys the cell wall of the disease-causing pathogenic fungi or bacteria resulting in suppression of pathogenic load

TARGET CROPS: All Crops

DOSAGE: Liquid based: 1 to 2 litres/ acre

Carrier based: 2 to 5 kg/ acre

METHOD OF APPLICATION

- **Seed Treatment:** Mix 20 gm or 2 to 3 ml in 10ml of water to give proper coating on 1kg of seed.
- **Soil Application:** Mix 2 to 5 kg of Nisarga in 2 MT of FYM & broadcast over one acre before planting.
- **Nursery:** 50 g per Sq. Mt or mix 1 kg/ 1Ltr of Nisarga in 100 liter of water and drench it in the nursery bed.
- **Seedling Dipping:** Mix 100 g or 10 ml of Nisarga in one litre of water and dip the roots of seedling in the suspension for 10 to 15 min before transplanting.
- **Drip Irrigation:** Apply 1 to 2 Litre of Nisarga/ acre of land through drip irrigation.
- **Frequency of Application:** Two to three applications in vegetables and field crops and 4 to 5 applications in lawns/ landscape crops at 2 to 4 weeks interval are recommended.



BENEFITS

- Controls Seeds and soil borne diseases like root rot, damping off, fungal wilts etc., occurring in vegetables, fruit crops, field crops pulses and plantation crops.
- Effectively controls Ganoderma wilts in Arecanuts and Coconuts.

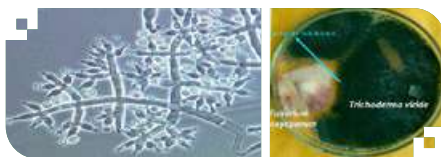
PRECAUTIONS:

- Applications of Nisarga at early stages is better to get better protection of the crop from disease incidences as beneficial *Trichoderma* will get sufficient time to get established in the soil.
- Don't mix with any fungicides and harsh chemicals while applying Nisarga.

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr & 5 Ltr.

Powder: 100 g, 250 g, 500 g, 1 kg & 25 kg



Nisarga microscopic view

Antagonistic effect

MULTIPLEX SPARSHA (BIO-BACTERICIDE)

(A potential formulation of beneficial bacterial bio-agent)

ACTIVE INGREDIENT: *Pseudomonas fluorescens*
(Min. 1×10^8 CFU /ml for Liquid Based & min. 1×10^8 CFU /gm for Carrier Based)

MODE OF ACTION: The mechanism of suppression is done by competition of nutrients or chemical antibiosis where the total ecosystem gets modified in favor of beneficial microbes by producing certain secondary metabolites and resulting into depletion of pathogenic fungal and bacterial population. Besides, *Pseudomonas fluorescens* also helps to enhance the availability of chelated iron in the rhizosphere which builds up plant innate immunity to fight against pathogens, known as ISR (Induced systemic resistance)

TRAGET CROPS: Cereals, Vegetables, Pulses, Oilseeds, spice crops, plantations crops, horticulture crops etc.

DOSAGE: Liquid Based: 1 to 2 liters per acre
Carrier Based: 2 to 5 kg per acre

METHOD OF APPLICATION

- **Foliar Spray:** Mix 2 to 3 ml / 5 gm of Sparsha in one liter of water. This solution should be sprayed using knapsack sprayer or any other conventional sprayer 2 to 3 times at 15 days intervals.
- **Seed Treatment:** Treat the seeds with Multiplex Sparsha at the rate of 5 ml or 20 gm/ kg of seeds.
- **Nursery Beds Treatment:** Treat the beds with Multiplex Sparsha at the rate of 10 ml or 50 gm/ sq.m.
- **Seedling Dipping:** Mix 10ml/ 50gm of Sparsha in one liter of water and dip the seedlings for 10 min & then transplant.



- **Main Field/ Soil Application (Powder Formulation):** Apply Multiplex Sparsha at the rate of 2 litres or 5 kg/ acre along with enriched FYM or Multiplex Annapurna at the rate of 120 to 150 kg / acre to the soil before transplanting.

BENEFITS

- It effectively controls soil borne pathogens causing Bacterial and fungal wilts
- Suppresses the plant parasitic nematodes specifically Root-knot nematodes infecting Tomato and Okra.
- *Pseudomonas fluorescens* is also called as PGPR (Plant growth promoting rhizobacteria) as it enhances plant growth and yield significantly.
- Triggers the natural immunity in the plants.

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr, 5 Ltr
Powder: 500 g & 1 kg

BIO CROP PROTECTANTS (BIO-PESTICIDES FOR CROP DISEASE)

MULTIPLEX BIO-JODI (BIO-BACTERICIDE)

(A potential formulation of beneficial bacteria)

ACTIVE INGREDIENTS: *Bacillus spp.* & *Pseudomonas spp.* (Min. 2×10^9 CFU/ml for Liquid Based & min. 5×10^8 CFU/gm for Carrier Based)

MODE OF ACTION: Multiplex Bio-Jodi produces a group of antibiotics, which helps to compete with other plant pathogenic microorganisms by either killing them or suppressing their growth. It also has direct fungicidal and bactericidal affects.

TARGET CROPS: All crops

DOSAGE: Liquid based: 1 to 2 liters per acre
Carrier based: 2 to 5 kg per acre

METHOD OF APPLICATION

- **Seeds Treatment:** Mix 10 g of Multiplex Bio-Jodi in 10 ml of water and mix this solution to coat 1 kg of seed to form a uniform coating.
- **Nursery:** Mix 10 g of Multiplex Bio-Jodi in one litre of water and drench the nursery bed.
- **Seedling Dipping:** Mix 20 g of Multiplex Bio-Jodi in one litre of water and dip the seedlings for 30 minutes in this solution and then transplant.
- **Foliar Spray:** Mix 5 g or 3 ml of Multiplex Bio-Jodi in 1 litre of water and spray. We recommend 2 to 3 sprays at 15 days interval. Do not use any chemical fungicide / bactericide at least 7 to 10 days before or after use of Multiplex Bio-Jodi.
- **Soil Application:** Mix 2 to 5 kgs / 2 litres of Multiplex Bio-Jodi in 120 to 150 kg of Multiplex Annapurna / Farmyard Manure and broadcast over one acre. Maintain adequate moisture at the time of application and thereafter up to 15 days.



BENEFITS

Multiplex Bio-Jodi controls rice blast and sheath blight of paddy, early and late blight of Tomato Chilli and Potato,

Bio-Jodi controls root and stem rot caused by *Sclerotium* and *Rhizoctonia* also wilts and leaf spots caused by fungi and bacteria

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, & 1 Ltr

Powder: 50 g, 100 g, 250 g, 500 g & 1 kg



CFU or Spores (a.i) of Bio-jodi seen under microscope

MULTIPLEX MAHAN

ACTIVE INGREDIENT: NEEM Fruit Powder with 7% Neem Oil.

MODE OF ACTION: Multiplex Mahan has a phytochemical constituent Azadirachtin which when enters the insect's body stimulates at least one 'deterrent neuron' in insects which shows an anti-feedant response by inducing vomiting leading to insects death out of starvation. Neem also suffocate mites, whiteflies, aphids and other types of soft bodied insects on contact. This, inhibits feeding and reproduction of the pests. Further, insects and plant pathogens fail to develop resistance. Mahan also supplies major nutrients organically.

TARGET CROPS: All Crops

DOSAGE: 10 kg per acre for field crops and for Plantation crops 100 to 250 g/ plant twice a year

METHOD OF APPLICATION: After final land preparation broadcast 10 kg Multiplex Mahan over an acre before sowing or transplanting/ planting.

BENEFITS

- Multiplex Mahan controls soil borne pathogens and nematode pollution through repellent properties.
- Multiplex Mahan is having growth regulator and larvicidal properties which avoids moulting of larvae to pupae and finally kills the Larvae.
- Application of Multiplex Mahan prevents insects to lay eggs and thus disrupts life cycle of pests.
- Multiplex Mahan has systemic action and seedlings can absorb and accumulate the neem compounds to make the whole plant pest resistant.



- Multiplex Mahan does not destroy natural predators and parasites of pests and is eco friendly.
- Multiplex Mahan contains essential nutrients Like N, P, K and traces of secondary and micronutrients in organic form.

AVAILABLE PACKING: 2 kg, 10 kg & 25 kg.



MAHAN - Fine neem fruit powder

NON-EDIBLE DE-OILED CAKE FERTILIZER

MULTIPLEX NEEMPURE-P

ACTIVE INGREDIENTS: Neem Fruit Pellets with 7% Neem Oil

MODE OF ACTION: Multiplex Neempure-P Pellets consistently release potent phytochemical constituent azadirachtin ingestion of which leads to abnormal molts, growth reduction, stimulates the 'deterrent neuron' which shows an anti-feedant response by inducing vomiting leading to insects' death out of starvation resulting in crop protection by reducing the pest population without harming non-target or natural predator population. Multiplex Neempure-P also releases essential plant nutrients.

TARGET CROPS: All Crops

DOSAGE: Apply Multiplex Neempure-P at the rate of 8 kg per acre for field and for Plantation crops. Apply 50 to 100 g per plant twice/ thrice a year.

METHOD OF APPLICATION: Broadcasting, spot application or band application depending on type of field crop and plantation crop.

BENEFITS

- Controls soil borne pathogens and nematode population through repellent properties.
- Multiplex Neempure-P is having growth regulator and larvicidal properties which inhibits moulting of larvae to pupae and finally kills the Larvae.
- Application of Multiplex Neempure-P prevents insects to lay eggs and thus disrupts life cycle of pests.
- Multiplex Neempure-P has systemic action and seedlings can absorb and accumulate the neem compounds to make the whole plant pest resistant.



- Does not destroy natural predators and parasites of pests and is ecofriendly.
- Contains essential nutrients Like N, P, K and traces of secondary and micronutrients in organic form.

AVAILABLE PACKAGING: 1 kg & 8 kg



MULTIPLEX BABA (FUNGAL BIO-PESTICIDE)

(A potential bio-pesticide of a beneficial entomopathogenic fungus)

ACTIVE INGREDIENT: *Beauveria bassiana* (Min. 1×10^8 CFU/ml for Liquid Based & min. 1×10^8 CFU/gm for Carrier Based)

MODE OF ACTION: *Beauveria bassiana* on contact of insect body, the infective spores start germinating and then the germ tube penetrate directly into the body of host insects. After entering into insect body fluid fungus proliferates profusely throughout the insect body and producing toxins metabolites which stops feeding of the insect and slowly paralyze and then kills the host insect. The whole process takes about 4 to 5 days. Once the insect gets killed, the body become very hard and afterwards fungus grows through the softer part of the cuticle with a thin layer of white mold, known as white muscardine disease.

TARGET PESTS: Lepidopteran caterpillars pests like Leaf Folder, defoliator, stem borer, under most favorable condition *B. bassiana* can develop infection to sucking pests like mites, aphids, thrips. *B. bassiana* was found to be effective against pest like coffee berry borer.

TARGET CROPS: Cereals, Pulses, Turmeric, Tea, Coffee, Mustard, Tobacco, Banana, and Vegetables

DOSAGE

- **Liquid Based:** 1 to 2 liters per acre
- **Carrier Based:** 2 to 5 kg per acre

METHOD OF APPLICATION

- **Foliar spray:** Mix 2 to 3 ml or 5 gm per litre of water and spray uniformly using any conventional sprayer. Spray twice at 15 days interval on appearance of pest infestation on crops.

**BENEFITS**

- Compatible with a number of adjuvants and biological insecticides but advisable to mix only compatible adjuvants to minimize the detrimental effect on BABA.
- A good bio-insecticide to control insects in organic farming.

PRECAUTION: Maintain high humidity around the crop canopy after spraying BABA by making pre- treatment irrigation. BABA is not compatible with any insecticide.

AVAILABLE PACKINGS

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr, 5 Ltr
Powder: 1 Kg



Red palm weevil infected by BABA (*Beauveria bassiana*)

MULTIPLEX METARHIZIUM (FUNGAL BIO-PESTICIDE)

(A potential biopesticides of a beneficial entomopathogenic fungus)

ACTIVE INGREDIENT: *Metarhizium anisopliae*
(Min. 1×10^8 CFU /ml for Liquid Based & min. 1×10^8 CFU /gm in Carrier Based)

MODE OF ACTION: *Metarhizium anisopliae* on contact of insect body, the infective spores start germinating and then the germ tube penetrate directly into the body of host insects. After entering into insect body fluid fungus proliferates profusely throughout the insect body and producing toxins metabolites which stops feeding of the insect and slowly paralyze and then kills the host insect. The whole process takes about 4 to 5 days. Once the insect gets killed, the body become very hard and afterwards fungus grows through the softer part of the cuticle with a thin layer of green mold, known as Green Muscardine disease.

TARGET PESTS: Root Grubs, Ants, Root Weevils, Termites, Locusts, Sucking and Caterpillar pests.

TARGET CROPS: Sugarcane, Rice, Pulses and Vegetables.

DOSAGE: Liquid Based: 1 to 2 liters per acre
Carrier Based: 2 to 5 kg per acre

METHOD OF APPLICATION

- **Soil Application:** 5 kg or 2 liters of Multiplex Metarhizium should be mixed thoroughly with 250 kg FYM in shaded area in the field and incubated for 15 days with intermittent sprinkling of water. After 15 days, the fungus enriched Farmyard manure should be used as soil application.
- **Foliar Spray:** Mix 2 to 3 ml or 5 gm of Metarhizium in one liter of water and spray the suspension over the plant for 2 to 3 times at 15 days intervals.



- **Nursery:** Dissolve 1 ml or 3 gm of Metarhizium in one liter & drench the nursery bed.

BENEFITS

- Metarhizium produces several secondary metabolites acting as mycotoxins (Insecticidal toxins)
- One such Mycotoxin such as destruxin E, which is considered as next generation insecticide against many pests like Aphids, Moths and Larvae.
- Helps in production of toxic free food.

PRECAUTION: For better result, spraying of Metarhizium should be initiated when pest population are at low level of infestation. Metarhizium should not be mixed with any hazardous chemicals.

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml & 1 Ltr
Powder: 500 g & 1 kg

MULTIPLEX MYCOMITE (FUNGAL BIO-PESTICIDE)

(A potential formulation of beneficial fungal bioagent for control of mites)

ACTIVE INGREDIENT: *Paecilomyces fumosoroseus* (Min. 1×10^8 CFU/ml in Liquid Based & min. 1×10^8 CFU /gm in Carrier Based)

MODE OF ACTION: When the spores of Multiplex Mycomite come in contact with mites, it germinates and penetrates through the cuticle and multiplies in the haemolymph. It inhibits metabolism and ultimately leads to total paralysis of all the physiological functions and thereby ensure the death of the mites. 5 to 7 days after spraying Multiplex Mycomite the red spider mites are totally covered by mycelium of *Paecilomyces fumosoroseus*.

TARGET PESTS & CROPS: Red spider mites on Turmeric, Pulses, Tea, Mustard, Tobacco, Banana, Vegetables.

METHOD OF APPLICATION

Foliar Spray: Mix 2 to 3 ml or 5 g of Multiplex Mycomite in 1 litre of water and spray on the upper and below leaf surface.

BENEFITS

- *Paecilomyces fumosoroseus* is developed by The United Planters' Association of Southern India (UPASI).
- Control pests such as Red spider mites, Thrips, Aphids, Leaf rollers, and other caterpillars in tea and other field crops.

PRECAUTION:

- Do not mix with fungicides, bactericides, and chemicals.
- High humidity helps in getting better results.

AVAILABLE PACKING

Liquid: 1 Ltr

Powder: 1 kg



1. Insects infected by Mycomite
2. Mycomite Culture

BIO CROP PROTECTANTS (BIO-PESTICIDES FOR CROP PESTS)

MULTIPLEX CHECKMITE (FUNGAL BIO-PESTICIDE)

ACTIVE INGREDIENT: *Hirsutella thompsonii*
(Min. 1×10^8 spores / gm)

MODE OF ACTION: When the spores of *Hirsutella thompsonii* comes in contact with mites, it germinates and penetrates through the cuticle and multiply. It inhibits metabolism and ultimately leads to total paralysis of the mite. After 5 to 7 days of spraying of Multiplex Check Mite, the mites get totally covered by mycelium of *Hirsutella thompsonii*. High humidity results in good efficacy.

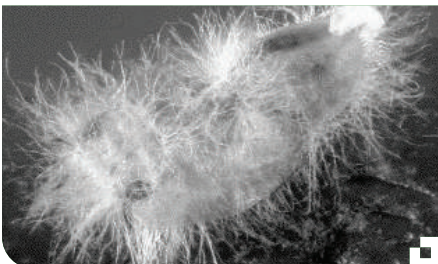
TARGET PESTS & CROPS: Citrus rust mite on citrus, Turmeric, Pulses, tea, Mustard, Tobacco, Banana, Vegetables.

DOSAGE & METHOD OF APPLICATION

- **Foliar Spray:** Dissolve 5 g of Multiplex Checkmite in 1 litre of water & spray on the leaves. Repeat application after 10 to 15 days.



Insects infected by Checkmite (*Hirsutella thompsonii*)



BENEFITS

- It controls mites but will not kill the natural enemies of mites
- Does not allow mites to develop resistance.
- Resurgence of Mite attack will not occur.

PRECAUTION: Do not mix with fungicides, bactericides, and chemicals.

AVAILABLE PACKING: 1 kg



Citrus Rust mite

MULTIPLEX VARSHA (FUNGAL BIO-PESTICIDE)

(A potential formulation of beneficial fungal bio-agent)

ACTIVE INGREDIENT: *Verticillium lecanii* (Min. 1×10^8 CFU/ ml for Liquid Based & min. 1×10^8 CFU /gm in Carrier Based)

MODE OF ACTION: MULTIPLEX VARSHA (*Verticillium lecanii*) eventually grows out through the cuticle & sporulates on the outside of the body. Infected insects appear as white to yellowish cottony particles. The fungal mycelium of *Verticillium lecanii* produces a cyclodepsipeptide toxin called bassianolida & other insecticidal toxin dipilolinic acid, which kills the insects in 4 to 6 days.

TARGET PESTS & CROPS: Greenhouse aphids, whiteflies, and thrips on Mealybugs on citrus (Acid lime), Turmeric, Pulses, tea, Mustard, Tobacco, Banana, Vegetables

DOSAGE & METHOD OF APPLICATION

Foliar Spray: Mix 2 to 3 ml or 5 g of Multiplex VARSHA in 1 litre of water and spray on the top and bottom leaf surface.

BENEFITS

- It is based on naturally occurring fungi & it is target specific.
- It doesn't affect natural predators of insects.
- Can be sprayed at all stages of crop growth, even at the time of harvest.
- Resurgence of pests attack will not occur.

PRECAUTION: Do not mix with fungicides, bactericides, and chemicals.

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml & 1ltr

Powder: 1 kg



1. Varsha Culture
2. Insects infected by Varsha (*Verticillium lecanii*)

BIO CROP PROTECTANTS (BIO-PESTICIDES FOR CROP PESTS)

MULTIPLEX MINCHU (BACTERIAL BIO-PESTICIDE)

(A potential formulation of beneficial bacterial bio-agent)

ACTIVE INGREDIENT: *Bacillus thuringiensis* var. *kurstaki* 0.5% W.P. (Viable spore count min. 1×10^{11} spores/g and Potency min. 13000 IU/mg)

MODE OF ACTION: The Bt toxin dissolve in the high pH insect gut and become active. The toxins then attack the gut cells of the insect, punching holes in the gut lining. The Bt spores spill out of the gut and germinate within the insect body, resulting death of insect in a couple days.

TARGET PESTS & CROPS: All Lepidoptera & Coleoptera insects on Cabbage, Cotton, Red gram, Castor, chickpea, brinjal.

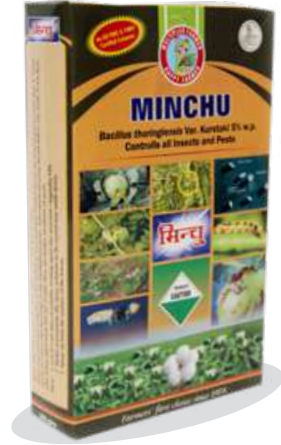
DOSAGE: 5 kg per acre

METHOD OF APPLICATION: Mix 5 g in 1 litre of water and spray on affected leaves.

First spraying of Minchu should be carried as soon as newly hatched larvae are noticed and not later than 4th instar larvae (6 to 7 days after hatching) of any lepidopteran pests. Subsequent spraying should be done one week or 10 days after first application that too if only there are further incidence of pests.

BENEFITS

- Multiplex Minchu is a microbial derived product from a soil borne gram positive, endospore forming crystalliferous, aerobic, bacterium with a broad spectrum of activity against most of the biting and chewing, lepidopterous, insects of agricultural, horticultural and plantation crops.
- Multiplex Minchu can be safely used against on all agricultural, plantation, and horticultural crop pests.



PRECAUTION:

- Do not expose the Multiplex Minchu to UV sunlight i.e, harsh sunlight from 10 am to 3 pm), since it will denature or inactivate the B.t spores
- Do not prepare spray tank mixture in large quantities well in advance. It is advisable to prepare as and when required.
- No prophylactic/ or schedule of calendar based application since it acts only as stomach poison not as contact or fumigant or systemic in action.

AVAILABLE PACKING: 100 g, 500 g and 1 kg



Insects infected by Minchu (*Bacillus thuringiensis*)

MULTIPLEX SPODOMAR (VIRAL BIO-PESTICIDE)

(SL-NPV)

ACTIVE INGREDIENT: *Nucleopolyhedrovirus of Spodoptera litura*. (Min. 1×10^9 POBs / ml)

MODE OF ACTION: Multiplex Spodomar which contains virus which is covered by polyhedral capsid a stable protein crystal, once virus enters the larval gut, which is alkaline in nature and dissolves the protein crystal, viruses are released in the larval gut and start spreading the infection resulting larvae becomes pale and glossy in appearance and they hang with their head downwards, giving an inverted V shaped appearance. The liquid which oozes out of the infected dead larvae, contains millions of polyhedral occlusion bodies, which further helps in the spread of the infection.

TARGET PESTS & CROPS: *Spodoptera litura* on cabbage, cauliflower, tobacco, soyabean, garden pea, tomato, cotton, groundnut and potato.

DOSAGE & METHOD OF APPLICATION: Mix at the rate of 2 to 3 ml of Multiplex Spodomar in one litre of water and apply on the entire plant in cool hours of evening.

BENEFITS

- Very effective when compared with other chemical insecticides.
- Eco-friendly, species specific and safe to plants, human, birds, and animals.
- Compatible with other chemical pesticides

PRECAUTION: Solution in the spray tank should be shaken quite often as NPV occlude bodies settle in the bottom

AVAILABLE PACKING: 100 ml & 250 ml.



Insects infected by Spodomar (NPV)

MULTIPLEX HELIMAR (VIRAL BIO-PESTICIDE)

(HS-NPV)

ACTIVE INGREDIENT: *Nucleopolyhedrovirus of Helicoverpa armigera* (Min. 1x10⁹ POBs / ml)

MODE OF ACTION: Multiplex Helimar which contains virus which is covered by polyhedral capsid a stable protein crystal, once virus enters the larval gut, which is alkaline in nature and dissolves the protein crystal, viruses are released in the larval gut and start spreading the infection resulting larvae becomes pale and glossy in appearance and they hang with their head downwards, giving an inverted V shaped appearance. The liquid which oozes out of the infected dead larvae, contains millions of polyhedral occlusion bodies, which further helps in the spread of the infection

TARGET PESTS & CROPS: *Helicoverpa armigera* on Cotton, Red gram, Ground nut, Tomato, Sunflower, Bhendi, Maize

DOSAGE & METHOD OF APPLICATION

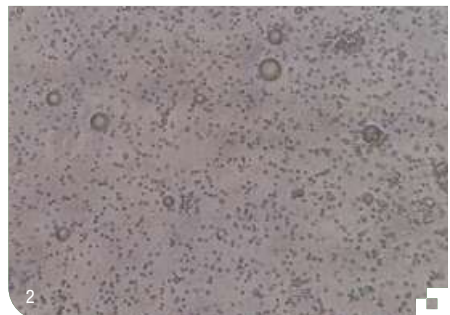
- **Foliar Spray(Liquid Formulation):** Mix 2 to 3 ml of Multiplex Helimar in 1 litre of water and spray on entire plant.

BENEFITS

- Very effective when compared with other chemical insecticides.
- Eco-friendly, species specific and safe to plants, human, birds, and animals.
- Compatible with other chemical pesticides.

PRECAUTION: Solution in the spray tank should be shaken quite often as NPV occlude bodies settle in the bottom.

AVAILABLE PACKING: 100 ml & 250 ml.



1. Insects infected by Helimar (NPV)
2. Helimar (NPV) POBs seen under microscope

MULTIPLEX SAFE ROOT (BIO-NEMATOCIDE)

(A potential formulation of beneficial fungal bioagent for control of plant parasitic nematode & soil borne diseases)

ACTIVE INGREDIENT: *Trichoderma harzianum*
1.0% WP (Min. 2×10^6 CFU /gm in Carrier Based)

MODE OF ACTION: Safe Root produce a substance that act on the eggs, adults & free-living stages of plant nematodes causing deformations and loss of movement & also safe-root is able to penetrate the egg to grow inside and destroy the embryo.

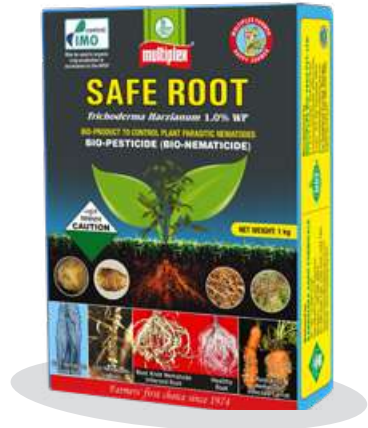
TARGET PESTS: All kinds of plant parasitic nematodes mainly Root-knot nematodes. Reniform nematodes, Cyst nematodes, Lesion nematodes. Burrowing nematodes, Citrus nematodes, Potato cyst nematodes etc.,

TARGET CROPS: All vegetable, Field crops, Fruits & plantation crops including Solanaceous vegetables, Banana, Pomegranate, Tobacco, soybean, potato, tomato, cotton & Tuber crops

DOSAGE: 2 to 5 kg per acre

METHOD OF APPLICATION

- **Seed Treatment:** Coat the Safe root at the rate of 10 to 20 gm per kg of seed before sowing
- **Drenching:** Mix 2 kg in 200 litres of water and drench the solution to base of the plant with 1 to 2 litres per tree. Repeat the drenching after 15 days.
- **Soil Application:** For one acre mix about 2 to 5 kg with 100 kgs of Multiplex Annapurna /500 kg well decomposed compost broadcast in the field.
- **Pit Application:** For plantation crops apply 25 grams of safe root in the pit before planting. After planting, about 25 grams of safe root can be mixed with 2 kg compost and sprinkle around the plant in the soil.



BENEFITS

- Controls most of soil borne nematodes plant parasitic nematodes (PPN)
- Helps in healthy roots formation which will absorb plant nutrients & water as and when required by plant.
- This will lead to healthy plant growth which in turn will result in increased yield.

PRECAUTIONS: Don't mix with fungicide & Harsh chemicals

AVAILABLE PACKING: 50 g, 100 g, 250 g, 500 g & 1 kg



Brinjal plant: Infected root vs Saferoot treated root

BIO CROP PROTECTANTS (BIO-PESTICIDES FOR CROP PESTS)

MULTIPLEX NIYANTRAN (BIO-NEMATICIDE)

(A potential formulation of beneficial fungal bio-agent for control of plant parasitic nematode)

ACTIVE INGREDIENT: *Paecilomyces lilacinus*
(Min. 1×10^8 CFU/ml in Liquid Based & min. 1×10^8 CFU/gm in Carrier Based)

MODE OF ACTION: On soil application of Multiplex NIYANTRAN, the fungal hyphae infest the various harmful nematodes in soil. Infestation starts through the parasitism and penetration of their mycelium to the body and egg of the nematodes resulting in the disruption of lipid and chitin layer of eggshell. Finally, egg contents will be destroyed. The fungus is also capable of invading mature ones.

TARGET PESTS & CROPS: Root knot Nematode on Vegetable crops, fruit crops and ornamental crops.

DOSAGE: Liquid Based: 2 liters per acre
Carrier Based: 2 to 5 kg per acre

METHOD OF APPLICATION

- **Seed Treatment:** Treat the seeds with Multiplex Niyanthran at the rate of 5 ml or 20 gm / kg of seeds.
- **Nursery Beds Treatment:** Treat the beds with Multiplex Niyanthran at the rate of 10ml or 50gm/sq.m.
- **Main Field/ Soil Application (Powder Formulation):** Apply Multiplex Niyanthran at the rate of 2 litres or 5kg/acre with Multiplex Annapurna at the rate 120 to 150 kg/ acre or FYM 2 tons / acre to the soil before transplanting.
- **Seedling Dipping:** Mix 10 ml / 50 gm of Multiplex Niyanthran in one liter of water and dip the seedlings for 10 to 15 mins before transplanting.



BENEFITS

- Protects the crop from root knot Nematode damage
- Protects crops from disease complex caused by nematodes and some of pathogenic fungi/bacteria.

PRECAUTION: Do not mix with fungicides, bactericides, and chemicals.

AVAILABLE PACKING

Liquid: 100 ml, 250 ml, 500 ml, 1 Ltr & 5 Ltr

Powder: 1 kg



Roots severely infected by nematodes

MULTIPLEX SHOCK (BIO-NEMATOCIDE)

(A potential formulation of beneficial fungal bioagent for control of plant parasitic nematode)

ACTIVE INGREDIENT: *Verticillium chlamydosporium* (*Pochonia chlamydosporia*)
(Min. 2×10^6 CFU /gm in Carrier Based)

MODE OF ACTION: The mode of action of this biocontrol agent is penetration by means of the hyphae into the target nematode eggs. This fungus produces chlamydospores that enhance its establishment and survival in the soil. Incorporating chlamydospores into the soil increases the probability of nematode egg parasitism and protects them from adverse environmental conditions.

TARGET PESTS & CROPS: Facultative parasite of root-knot and cyst nematodes on Vegetable crops, fruit crops and ornamental crops.

DOSAGE: 2 to 5 kg per acre

METHOD OF APPLICATION

- **Seed Treatment:** Treat the seeds with Multiplex SHOCK at the rate of 20 gm/ kg of seeds
- **Nursery Beds Treatment:** Treat the beds with Multiplex SHOCK at the rate of 50 gm/ sq.m.
- **Main Field/ Soil Application (Powder Formulation):** Apply Multiplex SHOCK at the rate of 5 kg/ acre with Multiplex Annapurna at the rate 120 to 150 kg/ acre or FYM 2 tons/ acre to the soil before transplanting.
- **Seedling Dipping:** Mix 50 gm of SHOCK in one liter of water and dip the seedlings for 10 to 15 mins before transplanting.

BENEFITS

- Protects crops from disease complex caused by the root knot nematodes and some other pathogenic fungus.



- Eco-friendly leaving no harmful residues.
- Compatible with all types of biological products.

PRECAUTION: Do not mix with fungicides, bactericides, and chemicals.

AVAILABLE PACKING: 1 kg



Roots severely infected by nematodes

MULTIPLEX SOLDIER (ENTOMOPATHOGENIC NEMATODE-EPN)

(An eco-friendly & beneficial entomopathogenic nematode)

ACTIVE INGREDIENT: *Heterorhabditis indica*

MODE OF ACTION: This is novel product Multiplex Soldier contains microscopic lakhs of infective juveniles of Entomopathogenic nematode symbiotically associated with bacteria locate their host in response to carbon dioxide, vibration, and other chemical cues after entering the body of the target insect through mouth, anus, or respiratory inlets. Once in the insect's blood, infective juvenile releases a highly specialised symbiotic bacterium (*Photobacterium* spp). These symbiotic bacteria multiply and rapidly kill the insect within a day or two, later nematode's feed on dead insect and reproduce in it.

TARGET PESTS: White Grubs, Borers, Root Grubs, Weevils and Cutworms

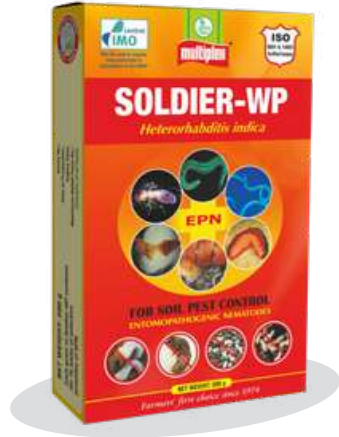
DOSAGE & METHOD OF APPLICATION: Quantity required for different crops are as follows

- **Main Field/ Soil Application:** Tea-5 kg/ acre, Sugarcane-2 to 5 kg/ acre,
- **Field Crops:** 2 to 5 kg/ acre
- **Plantation & Fruit Crops:** 5 to 25 g/ plant For Arecanut & Coconut 25g/ tree

Mix Multiplex Soldier with moist soil/ well decomposed FYM/ Annapurna & broad cast over one acre.

BENEFITS

- It is Eco-friendly and is a broad spectrum bio-pesticide
- Entomopathogenic nematodes fit nicely into integrated pest management or IPM programs because they are considered non-toxic to humans
- It does not allow insects to develop resistance or resurgence of pests.



- It persists in the soil after application and survive in moist soil without food for several months and once again become active on finding host.
- It is cruisers and are highly aggressive active, generally subterranean, moving significant distances using volatile cues and other methods to find their host underground.
- It helps in good root growth by killing root damaging insects and which in turn helps the plant for better absorption of water and nutrients from the soil resulting in good luxuriant growth and better yields.

AVAILABLE PACKING: 100 gm, 250 gm, 500 gm & 1 kg.



EPNs microscopic view



Healthy grub vs EPNs infected grub

MULTIPLEX ROGNASH-B (ORGANIC SALT-BASED FORMULATION)

ACTIVE INGREDIENTS: Tea Tree oil (*Melaleuca alternifolia*), Camphor oil (*Cinnamomum camphora*) & Adjuvants

MODE OF ACTION

- The active ingredient in ROGNASH-B is a mixture of a number of bioactive molecules. Some works synergistically and some deliver diverse mode of action.
- Complex form of active ingredient in ROGNASH-B
- Disrupts cell membrane, loss of cytoplasm and cell destruction.
- Inhibits spore germination, suppress hyphal growth of fungal pathogens.
- Impacts on plant defence process and allowing plant to focus to spend stored energy for increased growth and yield.

TARGET DISEASE: Broad Spectrum Bio-pesticides effective against Powdery mildew and Downy mildew

TARGET CROPS: Grapes, Capsicum, Chilli, Tomato, Rose, Tea, All kinds of Cucurbits, Crops grown under green house cultivation etc.

DOSAGE & METHOD OF APPLICATION: Mix ROGNASH at the rate of 2 to 3 ml/ litre of water.

Fill the tank with half the required quantity of water, then add the required quantity of ROGNASH-B in water and agitate. Continue agitation while adding the remaining water. When entire volume of water has been added, thoroughly agitate the suspension before making application.

BENEFITS

- Multiple modes of action against target pathogens.



- Ideal for resistance management programs of plant protection. Ideal for both curative and prophylactic application in organic & conventional cultivation.
- Highly compatible with commonly used insecticides & fungicides.
- No residue, No MRL, Zero toxic load.
- Keeps leaves healthy by avoiding diseases and thus improves photosynthesis
- Improves yield both by quality & quantity.

PRECAUTION

- Make application in the early stage of disease incidence for initial control, to control the spreading of disease severity.
- Prior to spray entire crop, test a small portion of the crop for sensitivity .

AVAILABLE PACKING: 100 ml, 250 ml, 500 ml, & 1 Ltr

BIO-CHEMICAL - FOR CROP PESTS

MULTIPLEX STRIKE PLUS (ORGANIC SALT-BASED FORMULATION)

ACTIVE INGREDIENTS: Potassium salt of fatty acid, Essential oil, and Neem.

MODE OF ACTION: Multiplex STRIKE PLUS is a Bio-Pesticide formulation of biologically derived substances containing fatty acid salt and selected essential oils. The active ingredients contained in the Multiplex STRIKE PLUS on contact with pests, dissolve the protective body cuticle and slowly dehydrates the body fluid causing death. In addition, selective essential oil present in the Multiplex STRIKE PLUS strongly repels the pests and thus protects the crop from pest infestation.

TARGET PESTS: It kills soft bodied sucking pests like mites, aphids, whitefly, thrips, plant hoppers, mealy bugs by way of contact mode of action.

DOSAGE: Mix 5 ml of Multiplex Strike Plus in one litre of water and spray on plants. It is highly effective when used as a Preventive/ Prophylactic application. We recommend regular sprays at an interval of 20 to 25 days for better results

BENEFITS

- Kills different soft-bodied insects within 48 hours of spraying by contact mode of action, followed by complete dehydration of the body.
- Effectively prevents insects from sucking or leaf eating and thus prevents crop damage.
- Repels insects by its strong repellent odour and disrupts the different stages of life cycle of insects.
- An effective against sucking pests, mites and thrips, lepidopteran caterpillars, and disease-causing fungus.
- An eco-friendly as it leaves no toxic residues.
- Improves quality and quantity of yield by preventing crop loss due to pests.



AVAILABLE PACKING: 100 ml, 250 ml, 500 ml, 1 litre & 5 Litres



Strike Plus Effectively Controls Mites

MULTIPLEX BIO STRIKE (PLANT EXTRACT BASED FORMULATION)

ACTIVE INGREDIENTS: Neem Oil, Pongamia Oil and Vegetable Oils

MODE OF ACTION: The synergistic formulation consisting of active metabolites like natural flavonoids and fatty acids possessing larvicidal, ovicidal, antifeedant and repellent properties. These ingredients disrupt the growth processes of insects by regulating metamorphosis hormones which are very much important for growth & development of any insect.

TARGET PESTS: Effective against large number of insects like Plant hoppers, Aphids, Psyllids, white flies, scale insects, Thrips, Gall midges, Fruit flies, Stem Borer and fruit Borer.

DOSAGE: Mix 2.5 ml of Multiplex Bio Strike in one litre of water and spray on plants. It is highly effective when used as a Preventive/ Prophylactic application. We recommend regular sprays at an interval of 20 to 25 days.

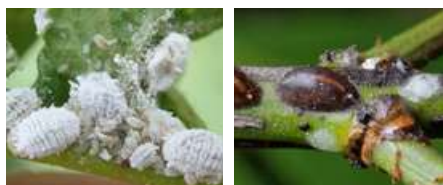
BENEFITS

- Plant derived broad spectrum bio-pesticide with different modes of action against pests
- Strong repellent odour effectively prevents insects from sucking or eating plant parts.

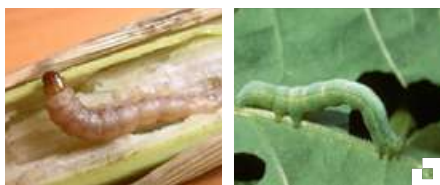


- Prevents insects from developing resistance against Chemical pesticides
- An eco-friendly and hence leaves no toxic residues.
- Prevents crop loss due to pest attack.

AVAILABLE PACKING: 250 ml, 500 ml, 1litre and 5 liter



Sucking Pests



Chewing Pests

MULTIPLEX MULTINEEM & MULTINEMOR

ACTIVE INGREDIENT: Neem Oil Based Bio-Pesticide containing Azadirachtin

Multineem - 0.03% EC W/W min &

Multinemor - 0.15% EC W/W min.

MODE OF ACTION: Azadirachtin is a compound which shows antifeeding effect in insects by the mode of chemoreception (primary effect) and food consumption by the insects is relatively reduced (secondary effect). These symptoms are shown because of the repellent and antifeedant nature of the azadirachtin. Azadirachtin at the larval stage, reduced longevity, wingless adults, incomplete moulting process, pupae result with various deformities. Disrupts mating and sexual communication (release of pheromones) in insects. Deters females from laying eggs and kills eggs (ovicidal activity) and sterilizes adults. A bitter and strongly odoured active ingredient keeps the insects away from plants.

TARGET PESTS: Plant Hoppers, Caterpillars, Leaf hoppers, Pod borers, Stem borers, Fruit borers, moths, Diamond Black Moth, Beetle, Plant bugs, Gall midges, Fruits flies, grasshoppers, locusts, psyllids, thrips, aphids and white flies.

DOSAGE: Mix 3 to 5 ml of Multiplex Neem or 1 to 3 ml of Multiplex Multinemor in one liter of water and spray on plants. It is highly effective when used as a Preventive/ Prophylactic application. We recommend regular sprays at an interval of 20 to 25 days for better results

BENEFITS

- Effectively prevents insects from sucking or eating plant parts of all crops
- Repells insects by its strong repellent odour and disrupts the different stages of life cycle in insects.



- Prevents insects from developing resistance against pesticides.
- Effective against plant nematodes and fungi.
- Easily degradable (leaves no toxic residues) and not harmful to human beings and pet animals

AVAILABLE PACKING: 100 ml, 250 ml, 500 ml, 1 litre & 5 Litres



Multineem & Multinemor effective against Sucking, Chewing, Borer, Flies and Bugs

GERMINATION ENHANCER AND GROWTH PROMOTER

MULTIPLEX CHIRAYU

ACTIVE INGREDIENTS: Beneficial Bacteria (*Bacillus subtilis*) & Beneficial fungus (*Trichoderma harzianum*) culture with their metabolites

MODE OF ACTION: Systemic protection against many seed & soil borne fungal and bacterial diseases like *Pythium spp.*, *Phytophthora spp.*, *Fusarium*, *Rhizoctonia spp.* etc., also acts as seedling protector, germination enhancer & growth promoter.

TARGET CROP: All Crops

DOSAGE & METHOD OF APPLICATION

• Seed Treatment:

Major crops	Seed rate per Acre	Chirayu Quantity
Vegetables	100 to 200 g	5 g
Paddy	25 kg	500 g
Soybean	40 Kg	500 g
Ground Nut	30 to 40 Kg	500 g
Maize	8 to 10 Kg	250 g
Cotton	2 Kg	100 g

Remarks: Quantity varies with size of seeds but dose for different crops is such that seeds should be uniformly coated with sufficient chirayu material

- **Seedling Root Dip:** Mix 100 g Chirayu in 10 liters of water & dip roots for at least 20 min before transplanting
- **Main Field Application:** Mix 1 kg Chirayu in 100 kg well decomposed FYM or Coco peat broad cast over entire acre

BENEFITS

- It increases the percentage of seed germination and results in better growth of the seedlings.



- It helps in better establishment of Tea cuttings by protecting the rooting.
- It protects the seedlings in the early stage from fungal and bacterial diseases by providing protective shield.
- It increases early establishment.
- Chirayu secretes metabolites which helps in healthy development of plumule and radical in the germinating seed thereby increasing vigour of the plants.

PRECAUTIONS: CHIRAYU should not be mixed with insecticide, fungicide or weedicide.

AVAILABLE PACKING: 20 g, 50 g, 100 g, 250 g, 500 g & 1 kg



Chirayu treated paddy seeds

BIO-PRODUCTS



Come Let's Grow Together



MULTIPLEX BIO-TECH PVT. LTD.

No. 180, 1st Main Road, Mahalakshmi Layout Extension,
Bengaluru - 560 086. INDIA.

Ph: 080-2349 7464, 2349 4406, 2349 7360.

Email: multiplex@multiplexgroup.com

Website: www.multiplexgroup.com

