PBL®

PEPTECH BIOSCIENCES LTD.

Your Global

Growth Partner

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PEPTECH BIOSCIENCES LTD.

"Peptech Biosciences Ltd." a part of the Titan Biotech Ltd. Group, is a global player in Agriculture inputs with its comprehensive infrastructure and expertise in handling Agro products. The list of products is certified by the following organizations.

- International Organization for Standardization (ISO 9001 : 2015)
- Central Insecticides Boards and Registration Committee (CIB & RC)
- Fertilizer Control Order (FCO), Rajasthan
- Organic certification by Rajasthan Organic CA
- OMRI Certified
- Member of CHEMEXCIL & PMFAI

At Peptech Biosciences Ltd., we believe in the power of innovation in everything we do, which is why we take holistic approach in the field of research and development that are sustainable. Peptech provides ingenious, high-quality crop solutions like Biological Fertilizers, Pesticides, and Stimulants, along with synthetic Insecticides and PGRs. The manufacturing process of all products is mechanized with extremely advanced technology, prime for the quality production. We are well equipped with high-quality labs and manufacturing units and a strong team of tremendously qualified scientists who are continuously working to meet the unique needs of our farmers, to improve performance, and maximize outputs.

As one of the leading Biotechnology companies, our extensive experience in various arrays of nutraceuticals and microbiology has proven a successful foundation for us to spread our wings into the discipline of agriculture. Our success stems from the ability to customize our portfolio in response to local and global agronomic conditions. We thrive on working closely with consumers to help build better products, solutions and services for a brighter tomorrow. It's our goal to make agriculture sustainable and provide reliable products.

Vision

"We work for B2B clients to expand their product portfolio with generic and innovative agriculture solutions"

Our motto is to support the Agriculture Brands and corroborate with them for assured quality and trusted formulations. We are always enthusiastic to develop new formulations for enriching and enhancing agriculture. Peptech Biosciences Ltd. is oriented towards Business-to-Business (B2B) alliances for production, and development globally.

Peptech has made a niche name in total customer satisfaction by providing the highest quality products available along with quick, responsive customer support services.

We are equipped with diligent Professionals, Researchers, and Scientists who are well experienced and have substantial knowledge of the respective field. Our team works in a team spirit and assists us in processing and array of Agricultural Products. Our experts are engaged in creating new innovative products which provide maximum benefits to our esteemed clients.

The management strives to penetrate ideas of customer orientation throughout all facets of Peptech Biosciences Ltd. with firm commitment and continuous dedication. Our sincere efforts are performed to strengthen relationships with our customers and enhance the growth of our entire agriculture fraternity.

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Bio-Stimulants

AMINOFERT HN 13%

Organic Nitrogen Fertilizer

NUTRIENT RICH IN AMINO ACID & PEPTIDES

Aminofert HN is an OMRI-listed, water soluble powder which is produced enzymatically from Non-GMO natural sources of protein. The Bio-Stimulant has a minimum content of 13% nitrogen, 80% amino acids, and 20% carbon. This is an excellent soil conditioner that assimilates easily into plants and soil. Aminofert HN is an ideal Bio-Stimulant for nitrogen-deficient crops. It is fast releasing and completely soluble in water.

Aminofert HN is a non-toxic, non-polluting, and natural nutrient source for plants. It comes with high recommendation for organic agriculture use as it is a chemical-free fertilizer, which is unquestionably perfect for environmentally friendly practices. It is compatible with conventional nitrogen sources and most fertilizers.

USES:

Suitable for all crops including Field crops, Potting soil, Vegetable and Flower gardens, Orchards, and Turf grass.

BENEFITS:

- A good dosage of 80 grams of readily available protein-based nitrogen for plants.
- When Aminofert HN is used, there is no tip burning, as is common with synthetic nitrates or ammonia N sources.
- Organic plant nitrogen, peptides, and amino acids come as a complete package in the product.
- Highly improves the transportation of minerals in soil and plant.
- Natural product with a positive environmental impact.
- Handling does not require special equipment or gear.
- Since the product is made through enzymatic hydrolysis, the particle size of Aminofert HN is very small, making it highly soluble nitrogen.
- No event of volatilization is possible in the case of Aminofert HN.

Specifications	
Nitrogen (N)	Min. 13.00%
Phosphate (P_2O_5)	<0.1%
Potash (K_2O)	<0.1%
pH	5-7
Total Amino Acid	Min. 80%
Carbon	Max. 20%

Dosage	
Average Rate of Application	2-3 Kg/ha
Hydroponic Application	1 gm/L
Foliar Application	1 gm/L

Other Technicals	Product form
Amino Acid Mixture 40%	Liquid
Amino Acid Mixture 50%	Liquid/Powder

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

AMINOFERT GOLD

Aminofert Gold is the flagship product of Peptech Biosciences Limited. This product is well sufficient with free Amino Acids, Carbon and Micronutrients. This is an ideal nutrition balancer for the soil and crops. Aminofert Gold eliminates the risk of any deficiency in soil, thus the full growth of crops is not hindered.

WHY: Aminofert Gold consists of 5µ (Microns) size particles, which gives outstanding and absolute penetration in the crops. Aminofert Gold catalyzes the production of chlorophyll and smooths the functioning of the respiratory and photosynthetic systems. It is recommended to be used during the early growth stage of the plant for root development. It is essential for the apical growth of plants. The minerals are distributed and transported well throughout the plant. It enhances yield in the biotic and abiotic stress and increases rhizosphere. This product regulates metabolic activities within plants.

Physical parameters	Aminofert gold liquid
Appearance	Brown Viscous Liquid
Solubility	Soluble In Water

Chemical parameters	Aminofert gold liquid
pH (2% soln at 25°C)	3.5 - 4.5
Amino Acids	Min. 35%
Other trace elements (Zn, Mg, Mn, B, Ca, Fe)	Max. 5%
Particle Size	5µ (Microns)

RECOMMENDED CROPS:

Aminofert Gold may be used on legumes, grain crops, root crops, cucurbits, leafy vegetables, woody and herbaceous plants, ornamentals, deciduous fruits, vine crops, tropical and subtropical fruits, and many other crops and turfs.

APPLICATION METHOD:

1. Foliar spray application: 1.5 - 2 ml of Aminofert Gold per litre of water is recommended. Aminofert Gold can be included in a regular spray program on crops and is compatible with other spray materials.
2. Drenching Process: 1.25 - 2.5 litres of Aminofert Gold per hectare is recommended.

The rate of application depends on the crop, stage of growth, and severity of the deficiency. The maximum recommended rates are for mature, full-sized plants. Reduce the rates proportionately when spraying on smaller plants.

RECOMMENDED DOSAGES:

Field Crops & Vegetables: Apply 400-500 ml per hectare during periods of rapid growth or nutritional stress. The application may be repeated twice or more times through the growing season.
Grapes and Vine Crops: Make an application of 400-500 ml per hectare after active growth begins. The application may be repeated at intervals of one week or more through the vegetative growth period.
Tree Crops: Use 10-15 ml of Aminofert Gold in 10 ltr water per tree. Apply Aminofert Gold at the beginning of active growth. The application may be repeated at 2-4 week intervals through the growing season.

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*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Bio-Stimulants

AMINOFERT 77

Aminofert 77 is a unique liquid Bio-Stimulant consisting of more than 18 essential amino acids. Derived from plant-based protein hydrolysates, it provides rapid nitrogen nourishment for optimal growth, enhanced stress resilience, and abundant harvests.
Natural Amino Acid (Hydrolysis of Protein)**: 68.5%**, Appearance: **Dark Brown**

BENEFITS:

- Increases chlorophyll levels and promotes efficient photosynthesis.
- Amino acids act as catalysts for pollination, leading to improved fruit setting, earlier harvests, and bountiful yields.
- Empowers crops to combat and recover from environmental challenges, fostering overall stress resilience.
- Optimize chelation, which ensures efficient absorption and transport of essential micronutrients for exceptional growth.
- Acts as an enzyme activator and boosts the synthesis of ethylene.

Crops	Frequency
Wheat & other cereals peas, chickpea & other pulses	• 1st application- before 1st irrigation (20-28 DAS) • 2nd application- 40-50 DAS • 3rd 65 DAS flag leaf stage
Rice	• 1st application- nursery before transplantation • 2nd application- 20-30 DAS (tillering stage) • 3rd 40-50 DAS flag leaf stage
Tomato, Chilli and Brinjal	• 1st application- nursery just before transplanting • 2nd application- 20-25 DAS • 3rd application- pre-flowering • 4th application- fruit setting • 5th application- colour change
Potato	1st application- when plant is 15 cm tall, 2nd application when tuber begins to swell, after 15 days of the previous application
Cabbages (all varieties)	1st application- just before transplanting, then 2 application at 20 days interval
Onion & Garlic	1st application- bulb development, then 20 days interval
Melons & Guards	• 1st application- 4-5 leaves phase • 2nd application- Pre-flowering • 3rd application- fruit set & fruit development
Citrus trees (Orange, Lemon, Mandarin & Grapefruit)	• 1st application- vegetative phase • 2nd pre- flowering • 3rd application- Petal fall • 4th application- pea size fruit, & Fruit size 6-7 cm diameter
Tropical & subtropical crops (Banana, Mango, Sugarcane, Tea, Coffee, etc.)	2-4 application at regular intervals (12-14 days) along the critical moments, e.g. flowering, fruit falling, fruit development, colour change or after stressful weather condition such as hail, frost, etc.
Lettuces, Spinach, Fennel and Leafy vegetables	• 1st application- 15-20 DAS • 2nd application- 35-40 DAS

Dose: 200 ml-400 ml/ 100-200 L of water

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CROP TIGER

Crop Tiger is a unique formulation designed especially to enhance the growth of field crops. Crop Tiger is a versatile product, which enables its usage for the majority of field crops to obtain assured positive results. This product is a rich blend of Kelp Extract, Amino Acids and Multivitamins. Crop Tiger gives plants unrivalled resistance to climatic stress and disease. Crop Tiger has multi-functional capabilities as it is not only anti-fungal but also act as crop enhancer by providing nutrition to crops.

BENEFITS:

- Increases the quality of the vegetables and fruits by thickening the cell walls of the stems and stalks.
- Stronger crops are resistant to drought and any other adverse climatic changes like temperature drops or high heat conditions.
- Increase the plant's tolerance to biotic and abiotic stresses.
- Increases the water holding capacity with the changes in soil microflora.
- Improves photosynthetic activity.

Potassium and Amino acids are natural origins; thus, Crop Tiger is very ideal for organic farming. The special blend of Crop Tiger can bring a drastic change in the crops, which can be profitable for all.

TARGET CROPS:

Rice, Sugarcane, Maize, Wheat, Vegetables, and other crops

APPLICATIONS AND DOSAGES:

1.5 - 2.5 kg/hectare as foliar application at flowering/fruiting/grain formulation stage.
2.5 - 5 kg/hectare as soil drenching.
The application always varies as per the size of the crop.
Compatible with all the fertilizers.

PRODUCT COMPOSITION:

Ingredients	Specifications
Multi Vitamins	Min 1%
Plant Extract (Kelp Extract)	Min 30%
Amino Acids	Min 14%
Potassium Oxide	Min 15%
Organic Matter	Min 30%
Filler	Min 10%

FIELD TRIALS:

The field trials of the Crop Tiger were conducted at a reputed Agricultural University in India. They were carried out on Banana, Sugarcane and Rice. In the trials, significant results were observed between the treated and non-treated crops.

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Bio-Stimulants

AMINO ACID MINERAL CHELATES

Amino Acid Mineral Chelates are a specific form of nutritive minerals. An amino acid chelated mineral is simply a mineral (like Magnesium, Iron, Boron, etc.) that's been molecularly attached to an amino acid. Attaching amino acids to the mineral molecules creates a more stable structure that's better able to survive the acidic environment in the soil bio flora. These Amino Acid Chelated Minerals are thought to be more easily absorbable by plants than non-chelated forms.

AVAILABLE FORMULATIONS:

Chelate formulation	Benefits
Calcium Amino Acid Chelate- Ca-12%	1. Required for root development during the plant's early growth stage. 2. Calcium is a part of the cell wall and hence related to cell division and the cell elongation process.
Calcium Boron Amino Acid Chelate- CB 6:1	1. Helps in pollination, fertilization, and the formation of seeds and grains. 2. Helps to maintain the balance of sugar and starch in the plant and aids in their translocation in the plant, as well as plant growth and development.
Boron Amino Acid Chelate- B-12%	1. Enhances regulation of plant hormone levels and promotes proper growth. 2. Increases flower production and retention, pollen tube elongation and germination, and seed and fruit development.
Copper Amino Acid Chelate- Cu-12%	1. Promotes chlorophyll and protein synthesis while slowing plant aging, resulting in increased fruit and grain production. 2. Assists in process of photosynthesis and helps plant in carbohydrates and proteins metabolism.
Ferrous Amino Acid Chelates- Fe-12%	1. Plays a critical role in metabolic processes such as DNA synthesis, respiration, and photosynthesis. 2. Involved in the synthesis of chlorophyll and essential for the maintenance of chloroplast structure and function.
Magnesium Amino Acid Chelate- Mg-6%	1. Assists the plant at various stages of development and severity of deficiency. 2. Captures the sun's energy for growth and production through photosynthesis.
Manganese Amino Acid Chelate- Mn-12%	1. Plays a role in pollen germination, pollen tube growth, root cell elongation and resistance against root pathogens. 2. It also helps in maintaining the subcellular homeostasis.
Molybdenum Amino Acid Chelate Mo-2%	1. Molybdenum is an essential component of two enzymes that convert nitrate into nitrite (a toxic form of nitrogen) and then into ammonia before it is used to synthesize amino acids within the plant. 2. It is also needed by symbiotic nitrogen fixing bacteria in legumes to fix atmospheric nitrogen.
Zinc Amino Acid Chelate Zn-12%	1. Zinc is part of an enzyme that regulates the equilibrium among carbon dioxide, water, and carbonic acid. 2. Zinc is found to be associated with water relations in plants and improves water uptake.
Aminofert MMF	Consortium of all chelated minerals.

DOSAGES:

- **Field Crops & Vegetables**: Apply Amino Acid Chelates 0.5 - 1 kg/hectare during periods of rapid growth or nutritional stress. The application can be repeated twice or more times during the growth season.
- **Tree Crops:** Make an application of Amino Acid Chelates 0.5 to 1.5 kg/hectare after the beginning of active growth. The application may be repeated at 2 to 4 weeks intervals through the growth season.
- **Grapes & Berries:** Make an application of Amino Acid Chelates 0.5 - 1 kg/hectare after active growth begins. The application can be repeated at intervals of one week or more during the vegetative growth period.

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SEAWEED EXTRACT
(Powder / Liquid)

Seaweed Extract is derived from the fermentation of the seaweed by deploying a cold process, in which microbial organisms rupture the cell wall and release the bio stimulant substances into the broth. It helps in optimizing the vegetative growth in the initial phases of crop growth. It promotes better tillering, vegetative growth, root growth, and nutrient uptake. It also provides resistance to plants against drought conditions.

Seaweed activates the soil bacteria, especially the rhizosphere bacteria, which are responsible for better growth of root system. Seaweed liquid is used as an effective foliar spray and soil application product.

BENEFITS:

- Seaweed is effectively promoting better vegetative growth, better tillering, better rooting, and plant growth.
- Improved plant health.
- Efficient nutrient uptake.
- Increased crop productivity.
- Drought resistance.
- Safe to use along with several Bio-Fertilizer inoculums.

DOSAGE AND APPLICATIONS:

The following table gives details on application methods and doses for the different formulations:

Seaweed	Application type	Dosage
Powder	Soil Application	Min. 1-1.5 Kg/ha in field preparation or through soil drenching
	Foliar Application	Min. 1 gm/L as foliar application
Liquid	Foliar Application	Min. 2 ml/L water in early stage of plant Typical hectare dose: 1.25-2.5 L

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Bio-Stimulants

Potassium Humate

Potassium Humate is derived from natural, high-quality Leonardite and serves as an effective bio-stimulant and soil conditioner, rich in humic acid. It is easy to store at ambient temperatures and transport, featuring excellent solubility that allows it to blend seamlessly with various fertilizers and pesticides. Suitable for application via drip irrigation, fertigation, and foliar spray, it can be used across landscapes, gardens, and agricultural or horticultural plants. Potassium Humate enhances fertilizer efficiency by improving soil structure. Its 100% water solubility ensures complete dissolution without clogs, allowing for smooth application and reliable nutrient delivery with no residue.

BENEFITS:

- Enhances water-holding capacity and cation exchange properties of soil.
- Protects soil from heavy metal ions and reduces pesticide residue contamination.
- Encourages healthy plant growth and boosts seed germination.
- Supports rapid root growth and development.
- Improves nutrient absorption through leaves and roots.
- Increases crop yield and enhances plant quality.

TARGET CROPS:

Maize, Cotton, Sugarcane, Vegetables, Banana, Pomegranate & other crops

DOSAGE AND APPLICATION METHODS:

Products	Method	Timming	Dosage
Potassium Humate 40% (Liquid)	Drip	Repeat at 20 days	2 ml/ltr
	Foliar spray	1st spray at early vegetative stage, repeat at 20 days of interval	0.05-1 ml/ltr
	Soil drench	After 10-15 days of plantation, repeat at 20-25 days of interval	2-3 ml/ltr
Potassium Humate 98% (Powder)	Drip	Apply during 10-15 days after transplant, repeat at 20-25 days of interval	1.5-2 g/ltr
	Foliar spray	1st spray at early vegetative stage, repeat at 20 days of interval	1-2 g/ltr
	Soil drench	Apply during 10-15 days after transplant, repeat at 20-25 days of interval	2-4 g/ltr

Other available products:	Fulvic Acid 50% & 80%

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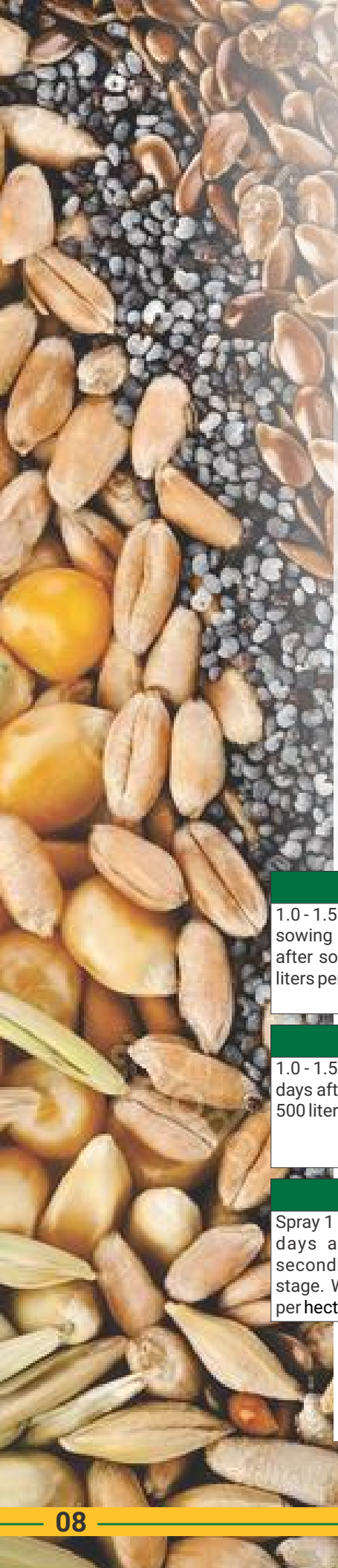

Micro-Nutrient Fertilizer

ZINC OXIDE 70% w/v SC

Zinc Oxide 70% w/v SC is a micronutrient fertilizer that contains a high amount of zinc. It is well-suited for foliar application; it easily penetrates plant and fruit bodies and aids in the prevention and treatment of zinc deficiency in a variety of crops. It is a free-flowing formula, which ensures the rapid and uniform spread of this product on plant surfaces and enhances better zinc absorption.

BENEFITS:

- Requires low dosage.
- Nano particles supports rapid absorption.
- Used as a tank mixture with agrochemicals.
- Promotes nitrogen metabolism and produces protein and starch.
- Boosts chloroplast & enzyme production.

Specifications:	
Zinc (Zn)	70%
Arsenic(As)	0.001%
Lead (Pb)	0.003%
Cadmium (Cd)	0.001%
Specific Gr.	1.70

DOSAGE AND APPLICATION METHODS:

Cereals	Citrus	Cotton
1.0 - 1.5 ml/L water 30-35 days after sowing and repeat at 40-45 days after sowing. Water rate: 400 - 500 liters per hectare.	Spray 1 - 1.5 ml/L water firstly after bahaar treatment stage and secondly at fruit setting stage. Water rate: 500 - 1000 liters per hectare.	0.3 to 1 L/ha 3 to 4 weeks after emergence. Repeat as required with 10 to 14 days between treatments. Water rate: 300 - 500 liters per hectare.
Maize	**Potatoes**	**Rice**
1.0 - 1.5 ml per liter water at 30 – 35 days after sowing. Water rate: 400 – 500 liters per hectare.	Spray 1 to 1.5 ml/liter water 30 - 35 days after planting. Water rate: 160 - 200 liters per hectare.	1.0 - 1.5 ml/liter water at 30 - 35 DAT and repeat at 45 - 50 DAT. Water rate: 400 - 500 liters per hectare.
Sugarcane	**Wheat**	**Apple**
Spray 1 - 1.5 ml/liter water firstly 45 days after planting stage and secondly 90 days after planting stage. Water rate: 400 – 500 liters per hectare.	Spray 1 - 1.5 ml/liter water firstly 30 - 35 days after sowing and secondly 45 - 50 days after sowing. Water rate: 400 – 500 liters per hectare.	1st application at petal fall stage @ 1 ml/liter water (Foliar). 2nd application post-harvest @ 1 ml/ltr water (Foliar). Maximum water rate: 700-1000 liters per hectare.

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Micro-Nutrient Fertilizer

BORON ETHANOLAMINE 11% w/w (15% w/v)

Boron 11% is a liquid micronutrient fertilizer for crops that have a requirement for additional boron. Boron 11% is water soluble; thus, it is easily assimilated and absorbed by crops via foliar application. Foliar application of boron is useful to enhance the vine growth, number of fruits, fruit size, and yield of many cucurbitaceous crops (vegetable crops). Its application stimulates the growth of cambium tissues and apical meristems, promotes the mobility of calcium, and increases the production of pollen and fertilization.
Liquid Boron is a preventive and curative solution to control the insufficiency and deficiency of boron in various crops.

SYMPTOMS:

- Earliest signs of Boron deficiency show an alteration in the physiology of plants and trees that prevents the absorption of micronutrients (phosphorus, chlorides, potassium, etc.) from the soil.
- Leaves become small, thick, and brittle.
- Growing points start dying.
- The plant stem thickens, internodes shorten, and flowering, seed setting, and seed formation all decrease.

BENEFITS:

- Boron is an important micronutrient which is critical for the growth and health of all crops.
- Aids in the formation of the cell wall and ensures plant stability, including the movement of energy into plant growing parts.
- Flower and pollen formation is enhanced by the application and plays a role in final seed setting.
- Effective in nitrogen fixation and nodule formation in legume crops.
- Recovers the stunted root growth of plants.

SPECIFICATIONS:

Boron (B), percent by weight, minimum: 11, pH: 8.5 ±1, Specific gravity: 1.3,
Lead (Pb): 0.003, Arsenic (As): 0.01, Cadmium (Cd) 0.0025

TIME OF APPLICATIONS:

First: 20 days after planting.
Second: At flower initiation stage
Third: At fruit development (For hoticultural crops)

Crops	Foliar (per L of Water)
Beet, Carrot, Cucumbers	1-2 ml
Broccoli, Cabbage, Cauliflower, Melon	1-3 ml
Tomato, Potato, Pea, Lentil, Bean, Pepper	1-2 ml
Sugar Beet, Potato, Carrot	2-4 ml
Barley, Wheat, Corn, Soybean, Sunflower	1-2 ml
Apple, Grape, Pear, Cherry, Peach, Guava	1-2.5 ml
Horticulture Field	1-2 ml

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We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

LIQUID CALCIUM 15% & 24.2% SC

Liquid Calcium is a highly concentrated micronutrient liquid that allows a higher calcium input to be available to the plant. Liquid Calcium is applied during the flowering stage, and it stimulates internal chemical pathways that promote fruit set, resulting in increased fruit yields. The application of this micronutrient liquid makes the cell wall strong, which increases plant resistance to pests and disease. The product is specially formulated to provide maximum crop safety.

BENEFITS:

- Plays an extremely important role in the development of plant tissues and help plants to grow better.
- Helps in the better growth and development of the plant cell wall.
- Crucial to activate certain enzymes and to send signals that coordinate certain cellular activities in the plants.
- Makes calcium available to the plant for healthy root development and builds immunity inside the plant against attacking pests and pathogens.
- Enhances nutrient absorption by roots and its distribution inside the plant body.

SPECIFICATIONS:

Calcium (Ca) % by weight minimum	**11.0**	**24.2**
pH	**9.5**	**9-10**
Specific gravity (Kg/l)	**1.3**	**1.6**

DOSAGE AND APPLICATION METHODS:

Crop	Dosage/Ltr of water		Application time
	11%	24.2%	
Field Crops	1.50 ml	0.75 ml	1-2 times at flowering stage and at fruit development stage at 10-15 days interval
Vegetable	1.50 ml	0.75 ml	4-5 times at flowering stage and at fruit development stage at 10-15 days interval
Fruit	2.00 ml	1.00 ml	3-4 times at fruit set and fruit development stage at 10-15 days interval
Other Crops	1.50 ml	0.75 ml	3-4 times at growth time and flowering stage at 10-15 days interval

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We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

ZINC GLYCINATE (Liquid Fertilizer)

Zinc Glycinate is a glycine mineral specifically used for foliar application. The advantage of using glycine minerals is that the glycine surrounds and protects the minerals from adverse interactions. These interactions can take place in a solution, in the soil, or on the surface of the leaf.

BENEFITS:

- Improves metabolism in plants.
- Support in protein metabolism.
- Helps in the early establishment of seedlings.
- Better bud formation in fruit crops and tillering in cereals.

STANDARD SPECIFICATIONS:

Product Parameters	Specification
Zinc (as Zn) % w/w	6.80%
pH (1% distilled water)	4.0-5.5
Specific Gravity gm/ml	1.21

TARGET CROPS:

Apple, Banana, Brinjal, Cabbage, Citrus, Cucurbits, Grapes, Maize, Mango, Pomegranate, Rice, Tobacco, Tomato, Wheat, Other Field Crops, Cash Crops, Spices & Condiments.

Field Crops	Fruit Crops	Vegetable Crops
1st Spray- 20-30 days after transplanting/sowing	1st Spray- Active growth stage	1st Spray- 25 - 30 days after transplanting/sowing
2nd Spray- 40-45 days after transplanting/sowing	2nd Spray - Flowering stage	2nd Spray- 25 - 30 days after 1st application

Dosage	Application Method	Compatibility	Phytotoxicity
1.5 - 2.0 ml/ltre of water	Spray only	Do not mix with lime, copper, sulphur or mineral oil based products	Phytotoxicity has not been reported, when used as recommended

Note: We recommend 500 ltr. of water per hectare. In long duration crops, need to go for > 2 sprays at an interval of 20 days depending on need.

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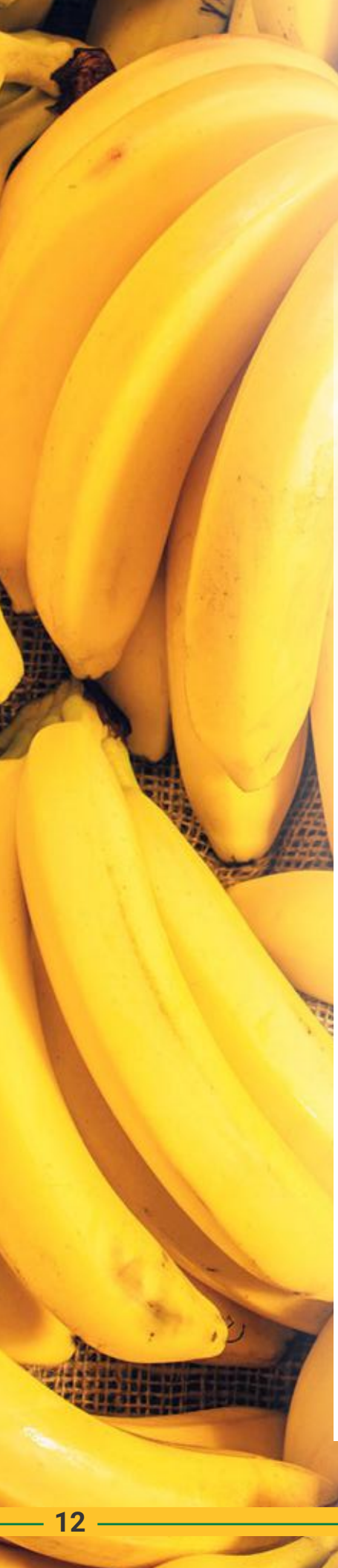


CALCIUM GLYCINATE (Liquid Fertilizer)

Calcium Glycinate is a glycine-chelated liquid formulation that contains 6.0% calcium. Calcium Glycinate is used as a foliar application treatment for soils and crops where calcium deficiency is diagnosed or suspected. Calcium aids in disease resistance and convert nitrate-nitrogen into the forms required for protein formation. Calcium also activates a number of plant growth-regulating enzyme systems and improves the absorption of other nutrients by roots and their translocation within the plant.

BENEFITS:

- Provides calcium for healthy soil.
- Helps in better nutrient uptake.
- Ensures early season growth.
- Promotes healthy plant tissue.
- Provides calcium for nutritious forages.
- Leads to higher yields and profit.

STANDARD SPECIFICATIONS:

Product Parameters	Specification
Calcium (as Ca) % w/w	6.0%
pH (1% distilled water)	5.5-7.0
Specific Gravity gm/ml	1.15 gm/ml

TARGET CROPS:

Apple, Peanut, Almond, Banana, Brinjal, Cabbage, Chilli, Citrus, Cotton, Grapes, Mango, Pomegranate, Tomato, Litchi, and other crops.

Dosage	Application Method	Application Time
2-3 ml/Lit of water	Spray only	First spray at flowering stage
		Second spray at fruit development stage

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

BORON GLYCINATE (Liquid Fertilizer)

Boron is necessary for plant development, growth, crop yielding, and seed development because it aids in the transfer of water and nutrition in plants. It is necessary for the balance of sugar and starch and plays a role in the movement of sugar and carbohydrates. It is important for pollination and seed production. This formulation is glycine-chelated and contains boron.

BENEFITS:

- Increase the yield and shelf life of the produce.
- It helps in new cell formation and root development.
- It helps in the formation of proteins and amino acids.
- Increase the number of flowers and fruits.
- It is a completely water-soluble, efficient boron fertilizer.
- Ensures the growth and high yield of all crops.
- Keep plants green and healthy.
- It is a micronutrient fertilizer for foliar spray.
- Better flower retention.
- Better fruit setting.

STANDARD SPECIFICATIONS:

Product Parameters	Specification
Boron (as B) % w/w	5.0 %
pH (1% distilled water)	8.0-9.0
Specific Gravity gm/ml	1.10 gm/ml

TARGET CROPS:

Apple, Banana, Brinjal, Cabbage, Chilli, Citrus, Cotton, Grapes, Mango, Pomegranate, Tomato, Plantation, Litchi, Other Crops

Dosage	Application Method	Application Time
2-4 ml/Ltr of water	Spray only	First spray at flowering stage
		Second spray at fruit development stage

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

ZIMBO Mg + Bo + Zn (L)

It is a liquid product with a high concentration that is intended for foliar application. The product is perfect for giving magnesium, boron, and zinc during the developmental periods where they are most needed because it contains considerable levels of each of these components. Moreover, it can be applied prior to flowering to speed up fruit set and flowering.

BENEFITS:

- Increases flower and fruit production.
- Aids in the regulation of carbohydrate metabolism and phosphate translocation.
- Enhance photosynthesis and activates enzymes and growth hormones.
- Helps plants with rapid growth, and improves shelf life of produce.

ROLES:

- **Magnesium** is involved in the activation of enzymes in respiration and photo-synthesis.
- Helps in the synthesis of DNA and RNA.
- Maintain the structure of the ribosome.

DEFICIENCY:

- Interveinal chlorosis in older leaves.
- Leaf tissue between veins becomes yellowish, bronze, or reddish.
- Premature leaf drop.

- **Boron** facilitates sugar translocation and synthesis of nucleic acids and plant hormones.
- Essential for germination of pollen grain and growth.
- Facilitate seed and cell wall formation.
- Activates Dehydrogenase enzymes.

- Stunted growth, and death of buds.
- Leaves tend to be thick-ended and may curl and become brittle.
- Crop-specific, such as: Peanuts: hollow hearts, Celery: crooked and cracked stem, Beets: black hearts, Papaya: distorted and lumpy fruit, Cabbage: midribs crack and turn brown, Broccoli, and Cauliflower: pith in hollow stem, Mango: Flesh brown and rotten.

- **Zinc** promotes growth hormones and starch formation.
- Necessary for chlorophyll production
- Helps in chlorophyll production.

- Stunted growth.
- Reduced internode length.
- Twigs die back.
- Leaves that surround flower panicles are typically small, irregularly shaped, and have drooping spikes.

Crop(s)	Dosages	Application Time
Avacado	1-2 L/ha	During the fruit setting stage and fruit development stage.
Pineapple	2 L/ha	During fruit development stage after flowering.
Banana	1.5-3 L/ha	During the fruit setting stage and fruit development stage.
Citrus	2-5 L/ha	During the sprouting and fruit set stage.
Cocoa	2-4 L/ha	During the fruit setting stage and fruit development stage.
Coffee	1.5-3 L/ha	At the beginning of sprouting, fruit setting, and fruit development stages.
Potato	1-3 L/ha	After one week of 100% emergence of crop.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

FARM BOOST $P_2O_5 + K_2O + MgO + Zn$ (L)

This high-concentration liquid product is specifically designed for foliar application. It serves as an excellent source of phosphate, potash, magnesium, and zinc during critical developmental stages when these elements are in high demand. Additionally, it can be applied before flowering to promote accelerated fruit set and flowering.

BENEFITS:

- Phosphate and potash are essential for plant growth, including roots, DNA, energy, and cell division.
- Magnesium enhances photosynthesis by aiding chlorophyll production, optimizing sunlight utilization for energy conversion.
- Zinc boosts plant disease resistance by strengthening defense mechanisms and increasing resilience to various stressors.
- Phosphate, potash, and zinc ensure quality fruit and seed development, essential for healthy, productive crops.

DOSAGE AND APPLICATION METHODS:

Crop(s)	Dosage	Application Time
Cereals, Oats, Wheat, Barley	5 L/ha	At tillering stage and repeat at 10 to 14 day intervals if necessary. Water rate: 200 L/ha
Beans, Carrots	3-5 L/ha	When crop is 10 to 15 cm tall. Repeat if necessary at 10 to 14 day intervals. Water rate: 80 to 200 L/ha
Fodder, Beet, Oilseed crops	5 L/ha	For a single application is 5 L/ha at the onset of extension. For moderate deficiency 5L/ha at 4 to 6 leaf stage and at the onset of stem extension.
Onion	5 L/ha	Apply when the foliage is 15 cm tall. Second application after 10 to 14 days later if necessary. Also 1 to 2 application of 5 L/ha during bulb formation stage. With a 10 to 14 day interval between sprays. Water rate: 200 L/ha.
Oilseed, Rapeseed	5 L/ha	Single application at the onset of stem extension for moderate deficiency. 5 L/ha at 4 to 6 leaf stage and at onset of stem extension. An extra application can be made 10 to 14 days later for severe deficiency. Water rate: 200 L/ha.
Turnip	3-5 L/ha	At the 4 to 6 leaf stage for moderate to severe deficiency. Repeat application should be made at the above rate at 10 to 14 day intervals as necessary throughout the season. Water rate: 200 L/ha.
Maize	5 L/ha	At the 4 to 8 leaf stage. Repeat after 10-14 days
Potato	10 L/ha	To increase tuber number: 10 L/ha at tuber initiation (when 50% of the tip swellings are twice the diameter of the rest of the stolon). To increase tuber size: Minimum 2 applications at the rate of 5 L/ha. One during bulking stage (as soon as first formed tubers are 10 mm in diameter) and second at 10 to 14 days after first application. Water rate: 200 L/ha.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

CABZEE Ca + B + Zn (L)

A Powerful Calcium Solution for Enhanced Plant Health

It is a revolutionary flowable suspension concentrate fortified with Calcium, Zinc, and Boron. This unique formulation offers superior micronized elemental and suspension efficiency and uptake, leading to a range of benefits for your crops.

BENEFITS:

- It's concentrated formula allows lower application rates compared to traditional Calcium products, making it more efficient and economical.
- It promotes cell division and elongation, leading to stronger and healthier plants.
- This Calcium-rich solution helps plants build stronger cell walls, resulting in increased resistance to stress and damage.
- It helps stimulate plants' natural defence mechanisms, making them more resilient to abiotic stresses like drought and heat.
- It facilitates the translocation of carbohydrates and nutrients within the plant, ensuring optimal growth and development.
- It improves the thickness of the outer skin of fruits and vegetables, leading to better shelf life and marketability.
- By addressing key growth factors, it has the potential to significantly improve overall crop yield and quality.

COMPOSITION:

Crop	Application Stage	Dosage (L/ha)
Potato	After a week of emergence	1
Tomato & Chilli	Fruit set stage (45–55 DAT) Repeat applications at intervals of 15–20 days	
Apple, Citrus & Pomegranate	Fruit set stage Fruit development stage	1-1.5
Grapes	4 mm berry size 8 mm berry size 10 days after veraison stage	
Banana	At the bunch set stage At the bunch development stage 15 days before harvest	
Tea/Coffee	Before flowering, 8–10 days before harvest	
Other crops (Cereals, Pulses, Oilseeds, Other Fruit & Vegetables, etc.)	Fruit/Pod/Grain setting stage Fruit/Pod/Grain development stage	

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

CALMOM Ca + Bo (L)

It is a liquid calcium and boron fertilizer that is both pure and highly concentrated. Our formula's high calcium and boron content enhances the tensile strength of cell walls and promotes cell proliferation. Together, calcium and boron increase disease resistance. Using calcium boron liquid can help to improve the overall health and quality of plants by providing them with the necessary nutrients. It can also help to prevent nutrient deficiencies and improve crop yields.

BENEFITS:

- Prevents fruit and flower dropping.
- Reduces biotic & abiotic stress.
- Improves fruit size and shelf life.
- Helps in suppressing Ethylene developments.
- Calcium and boron sustain the consistency of the cell wall, ensuring the fruit form and lustre.
- It increases flowering process & better flower setting.

ROLES:

- **Calcium** is used as calcium pectinate to form the middle lamella in the cell wall for the metabolism of lipids.
- Involved in the enlargement and cell division.
- Helps in the translocation of carbo-hydrates and also activates enzyme action in plants.

- **Boron** facilitates sugar translocation and synthesis of nucleic acids and plant hormones.
- Essential for germination of pollen grain and pollen tube growth.
- Facilitate seed and cell wall formation.
- Activates Dehydrogenase enzymes.

DEFICIENCY:

- Growing tips of roots and leaves turns brown and die.
- Buds and blossoms fall prematurely.
- Younger leaves may be cupped and crinkled.
- Chlorotic and Necrotic spots.
- Blossom end rot disease.

- Stunted growth, and death of buds.
- Leaves tend to be thick-ended and may curl and become brittle.
- Crop-specific, such as: Peanuts: hollow hearts, Celery: crooked and cracked stem, Beets: black hearts, Papaya: distorted and lumpy fruit, Cabbage: midribs crack and turn brown, Broccoli, and Cauliflower: pith in hollow stem, Mango: Flesh brown and rotten.

TARGET CROPS:

Grapes, Pomegranate, Banana, Mango, Tomato, Onion, Strawberry, Watermelon, Apple, Cherries and Berries.

Dosage	Application Method	Application Time
1.25-2.5 L/ha	Drip Irrigation	At full bloom and after 15 days
2-3 ml/L of water as spray depending on crop and growth stages	Foliar spray	

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

LIQUID COPPER (CONC.)

It is a specialized solution to counter copper deficiencies in plants and boost agricultural productivity. This high-concentration liquid suspension is designed for efficient low-rate application, preventing deficiency symptoms and promoting higher crop yields. Copper deficiency can hinder plant growth due to leaching in sandy soils or fixation in clay soils. Our Liquid Copper conc. fertilizer provides plant an available copper source, addressing deficiency-related issues such as reduced photosynthesis, compromised water transport, and stunted growth. Particularly vital for crops like soybeans, citrus fruits, and corn, this fertilizer enhances nutrient absorption, resulting in healthier plants with better photosynthesis and stress resistance.

BENEFITS:

- Enzyme cofactor: Copper serves as a crucial cofactor for various enzymes that drive essential growth processes in plants.
- Photosynthesis and respiration support: Copper plays a pivotal role in both photosynthesis and respiration by aiding in the production of chlorophyll and supporting respiratory enzyme systems.
- Reproductive function facilitator: Copper is essential for pollen development and fertilization, ensuring successful reproduction in plants.
- Disease defence and hormone regulation: It participates in disease resistance and also helps regulate plant hormones, influencing growth and responses to stimuli.

Crop(s)	Application Time	Dosages (L/ha)
Soybean/Common bean	During the third to fifth nodes (V3-V5)	0.25-0.5
Corn, Wheat	During the vegetative stage between V4-V6 Stage	0.25-0.5
Sugarcane	Foliar application before the rainy season	0.25-0.5
Citrus, Coffee	During vegetative growth	0.25-0.75
Tomato, Cucumber, Pepper, Melons	10 Days after transplantation and apply again in after 7 day interval	0.25-0.5
Potato	Until late blight ends	0.25-0.5
Grape	From 3rd leaf stage to until the grapes harvest	0.25-0.5

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

SULPHUR 80% SC

Sulphur is an indispensable mineral essential for plants to attain optimal health and growth. It plays a pivotal role in soil conditioning and aids in reducing sodium content. Moreover, Sulphur significantly enhances the flavor of various plants, such as garlic, onions, and mustard. Plants are unable to convert solar energy into new growth without the presence of Sulphur. Furthermore, Sulphur is critical for the synthesis of chlorophyll, and a deficiency in sulphur within plants is the underlying cause of leaf yellowing. Sulphur is also imperative for nitrogen metabolism. This product ensures efficient supply of the sulphur with the macronutrient that is important for plants, especially with regard to metabolism.

BENEFITS:

- Enhanced protein synthesis: Sulphur is essential for protein synthesis in plants, promoting overall growth and development
- Improved N-efficiency: It enhances nitrogen (N) efficiency in plants, leading to better nutrient utilization and healthier crops
- Glutathione synthesis: Sulphur is important for the synthesis of glutathione, a powerful antioxidant that protects plants from oxidative stress and supports their resilience
- High efficiency: Sulphur 80% formulation ensures a highly efficient and concentrated source of Sulphur for optimal plant nutrition and health

APPLICATION:

Foliar spray

Crop	Dosage (L/ha)	Application Time
Winter Crops	3-5	Autumn: from 4 leaf stage Spring: from the start of vegetation
Mustard	3-5	Autumn: from 4 leaf stage Spring: as needed
Maize crop	3-5	From 4 leaf stage
Sugarbeet	3-5	Throughout the vegetation

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

AMINOFERT CBZ

Amino Acid + Bo + Zn + Ca SL

This liquid formulation is designed for all plants to prevent or correct amino acid, boron, and zinc deficiency which limit crop growth and yield. This mixture can be quickly absorbed by the leaves and transferred to the plant tissue. It is aimed to improve the photosynthesis level of crops, thus increasing yield, and enhancing their ability to adapt the climate change.

BENEFITS:

- It stops the pre-abortion of buds.
- Increases flower and fruit production.
- Aids in the regulation of carbohydrate metabolism and phosphate translocation.
- Enhance photosynthesis and activates enzymes and growth hormones.
- Helps plants with rapid growth, and improves keeping quality of produce.
- Stimulates nutrient uptake and increases the chlorophyll content in the leaf of the plants.
- Boosts crop's resistance to drought, salinity, and other stressful conditions of yield.
- Aids in the formation of the cell wall and ensures plant stability, including the movement of energy into plant growing parts.

ROLES:	DEFICIENCY:
• **Amino Acid** is responsible for protein synthesis, plant growth, and development. • Active roles in plant development and participate in the plant's response to environmental stresses. • Improves quality and quantity of dry matter in leafy vegetables and protein in grain crops.	• Stunted growth and reduction in cell division. • Pale green to light yellow color of leaves. • Reduced flowering.
• **Boron** facilitates sugar translocation and synthesis of nucleic acids and plant hormones. • Essential for germination of pollen grain and pollen tube growth. • Facilitate seed and cell wall formation. • Activates Dehydrogenase enzymes.	• Stunted growth, and death of buds. • Leaves tend to be thick-ended and may curl and become brittle. • Crop-specific, such as: Peanuts: hollow hearts, Celery: Crooked and cracked stem, Beets: Clack hearts, Papaya: distorted and lumpy fruit, Cabbage: midribs crack and turn brown, Broccoli, and Cauliflower: pith in hollow stem, Mango: Flesh becomes brown and rotten.
• **Zinc** promotes growth hormones and starch formation. • Necessary for chlorophyll production • Helps in chlorophyll production.	• Stunted growth. • Reduced internode length. • Twigs die back. • Leaves that surround flower panicles are typically small, irregularly shaped, and have drooping spikes.

TARGET CROPS:

Apple, Banana, Brinjal, Cabbage, Citrus, Cucurbits, Grapes, Maize, Mango, Pomegranate, Rice, Tomato, Cherries and Berries

Application Method	Dosage	Application Time
Foliar spray, drip irrigation, and soil application	2-3 ml per liter	Vegetative stage and before flowering

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Micro-Nutrient Fertilizer

MANGANESE 50% (L)

Enhancing Plant Metabolism and Defense

Manganese is a liquid micronutrient formulation that is readily absorbed and plays a vital role in plant growth and development. Additionally, Manganese facilitates the degradation of chloroplasts and helps increase chlorophyll levels. Furthermore, Manganese acts as a coenzyme for various enzymes essential for metabolic processes, including those involved in carbohydrate and nitrogen metabolism. It impacts plant health, growth, and overall performance, leading to healthier & higher-quality yields.

BENEFITS:

- Contributes to the production of amino acids
- Promotes root cell elongation
- Plays role in defending plants against root pathogens
- Supports chlorophyll production
- It helps in the absorption of iron
- It regulates hormone signaling within the plant

CROP, APPLICATION STAGE & DOSAGES:

Crop	Application Time	Dosage L/ha	Water L/ha
Alfalfa / Lucerne	At the vegetative stage, and at flower bud formation	1	50-200
Almond	At new leaf development, and at bud break	1	500-1000
Apple	Pre-flowering, 4 weeks after petal fall, after harvest before leaf senescence	1-1.5	500-800
Apricot	At fruit development, repeat at 10 days of interval, If required	1.5	200
Bean, Chickpea, Peas & Lupin	4 to 6 leaf stage, pre-flowering & early fruit development stage	1-1.5	50-200
Bracissa vegetables, Broccoli, Cauliflower, Cucumber, Cucurbits, Watermelon, Tomato, Squash, Spinach, and Pumpkin	4 to 6 leaf stage, repeat at 15 days of interval, if required	1	50-200
Carrot, Soyabean, Lentil, Groundnut, Zucchini, Garlic, and Onion	When the plant attains 15 cm, repeat at 15 days of interval, if required	1-2	50-200
Cherries	During fruit development	1-2	200
Cereals	2 leaf stage to 2nd node formation	1-2	50-200
Citrus	During spring & autumn flushes	1.25-1.5	500-1000
Cotton	20 to 30 days after emergence, repeat if needed at 15 days	1	50-200
Grapevines	At flower formation, bud separation & fruit development	1	500-1000
Kiwi	During shoot elongation & development, at petal fall and fruit development	1	400-800
Maize/Sweet corn	At 2 to 8 leaf stage	1-2	200
Mango	At bud development to the beginning of fruit development	1-2	500
Olives	At beginning of season	1	1000
Canola	4 to 6 leaf stage, at stem elongation	1	200
Papaya	Pre-flowering	1	400-600
Potatoes	15 days after sowing, at duber development	1-2	200
Strawberries	At green bud development	1	500

Note: The final application must be completed at least one month prior to harvest.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

POTASSIUM 46.5% SL

Potassium is a vital mineral nutrient for plants, playing a foundational role in plant health, growth, and overall productivity. It is essential for various physiological processes, including nutrient uptake, water regulation, photosynthesis, and disease resistance. In this introduction, we will explore the significance of potassium in plant life, its multifaceted roles, and how its presence or absence profoundly influences the well-being and performance of plants.

BENEFITS:

- **Water regulation:** Potassium helps regulate water uptake and distribution within plants, reducing susceptibility to drought stress.
- **Photosynthesis:** It is essential for the opening and closing of stomata, facilitating carbon dioxide uptake for photosynthesis.
- **Nutrient uptake:** Potassium aids in the absorption of other essential nutrients, optimizing overall nutrient utilization.
- **Disease resistance:** Adequate potassium levels enhance plant immunity, reducing vulnerability to diseases and stressors.
- **Fruit quality:** It contributes to better fruit size, color, and taste, making crops more marketable.
- **Stress tolerance**: Potassium helps plants withstand environmental stress, such as extreme temperatures or salinity.
- **Yield increase:** Proper potassium levels often lead to increased crop yields, contributing to higher productivity and economic returns in agriculture.
- **Overall plant health:** It supports strong cell walls, reduces lodging, and promotes general plant vigour.
- **Limited water and nutrient uptake:** Potassium deficiency can impede a plant's ability to absorb water and essential nutrients from the soil.
- **Overall growth impairment:** Plants may exhibit stunted growth, delayed maturity.

Product	Fruit crops	Vegetables/ Pulses / Cereals
K 46.5%	2.5-5 L/ha	1.25-1.85 L/ha

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Special Fertilizer

SOLUBLE SULPHUR WITH CALCIUM

Soluble Sulphur with Calcium is a clear liquid with 6% Calcium and 10% soluble Sulphur. It shows a significant result in Fruits, Vegetables, Cereals, Soya and Maize. It can be used as Liquid Gypsum to improve Calcium and Sulphur deficiencies. It reduces ammonia from urea.
It is used as a fertilizer to compensate for calcium and sulphur deficiencies. As a soil amendment, it may be used to improve water infiltration and aid in the leaching of harmful soil salts.

BENEFITS:

Calcium -

- Works for root development during the early growth stage of the plant.
- Involved in the formation of seeds and grains.
- Essential for the apical growth of plants.
- Needed for the transportation of other minerals within the plant.
- Part of the cell wall, and hence related to cell division and cell elongation process.

Sulphur -

- Assists plants in the formation of proteins, which are essential components of many distinct characteristics.
- Increases the leafiness of crops like spinach.
- Gives garlic and asparagus their distinctive flavours.
- Improves the quality of wheat.
- Provides an adequate supply of sulphur for healthy crop production.
- Aids initial root growth, which is important in rapidly growing crops.
- Promotes seed production and vigorous plant growth.

Resists Rapid Leaching from the Soil	Improves Water Infiltration	Increases Deep Moisture	Displaces Harmful Salts
Reduces Moisture Stress	Provides a Balance of Nutrients	Increases Profit Per Acre	Environmental Friendly

TARGET CROPS :

Oilseed Crops, Legumes, Grain Crops, Root Crops, Cucurbits, Cole Crops

RECOMMENDED DOSAGES :

Soil Application: Mix 5 L with 400-500 L of water.
Foliar Application: Mix 200-250 ml in 200-250 L of water and spray. Foliar application is not recommended due to the possibility of burning. Do not apply this fertilizer, when temperature is more than 30°C. It is recommend to apply in early morning and after sunset. Recommended for pre sowing treatment on soil or field preparation.

*This formulation is recognized by the American Association of Plant Food Control Officials (AAPFCO) as a nitrogen stabilizer.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

SOLUBLE SILICA WITH POTASSIUM

Soluble Silica with Potassium (Potassium Salt of Silicic Acid) is a source of highly soluble potassium and silicon ions. Available in 100% Water soluble powder & liquid form.

	K_2O	SiO_2
Powder	28-30%	58-60%
Liquid	12-15%	26-28%

BENEFITS:

- Applicable in any season or when plant requires the potassium ion.
- Ideal fit for Integrated Pest Management (IPM).
- Safe for beneficial arthropods and plants.
- Protect the plant by creating a protective barrier and strengthen the cell wall.
- Reduces climate stress on crops and improves crop quality.
- Provides resistance to mineral stress.
- Improves photosynthesis and raises brix in all plants for fruit ripening, which removes mineral deficiencies.
- Improves plant growth and increases yield and quality.
- Reduce the lodging.
- Enhances reproduction by improving pollination and increasing pollen fertility.

EFFICACY:

The application of Soluble Silica with Potassium is effective in potato, rice, and sugarcane. When it is applied every week during the crop cycle, it will result in an impressive 20-25% increase in yield. Silica controls the diseases in Rice, Soya bean, and Sorghum by reducing the brown spot presence, and it also manages the rust disease problem in plants.

TARGET CROPS:

Rice, Soyabean, Sorghum, Melons, Tomato, Strawberry, Blueberry, Sugarcane, Grapes, Wheat, Barley, Cucurbits, Row crops, Vine crops, Ornamentals, Orchards, Vineyards, Hydroponically grown plants, Horticulture crops

RECOMMENDED DOSAGES:

For Powder: Apply 300-400 gm in 300 L of water.
For Liquid: Apply 800-1200 ml in 300 L of water.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Special Fertilizer

POTASSIUM THIOSULPHATE

Potassium Thiosulphate is a clear liquid solution with a neutral to basic pH. It contains 25% potash (potassium) and 17% sulphur, making it an ideal choice for providing essential nutrients to crops. This highly soluble product promotes nutrient uptake, enhances plant health, and can be applied via soil, foliar spray, or irrigation. Improve your crop yields and plant vigor with Potassium Thiosulfate, a trusted solution for modern agriculture.

BENEFITS:

- Provides essential sulphur and potassium nutrients to crops.
- Compatible with various crops and application methods.
- Improves nutrient use efficiency.
- Reduces chlorine toxicity in irrigation water.
- Enhances crop yields and overall plant vigor.

TARGET CROPS, APPLICATION METHODS AND DOSAGE:

Crop(s)	Application time	Dosage (L/ha)
Cotton	At the blooming stage	3.5-4.5
Potato	During tuber initiation stage, tuber development and tuber bulking stage	1.8-3.5
Small Grains	Tillering and early boot stage	1.8-3.5
Canola	Bolting stage (Stem elongation)	1.8-3.5
Alfalfa	At crown green up or on regrowth just after cutting	1.8-3.5
Rice	At panicle initiation stage	3.7-5.6
Pea and Lentil	During late bud to 10% bloom	1.8-3.7
Tomato	At fruit set stage	1.8-3.7
Soybean	Flowering stage	3.7-5.6
Wheat	At tillering to early boot stage	1.8-4.7

DRIP IRRIGATION AND FLOOD AND FURROW IRRIGATION:

Young trees and wine crop	During the growing season, starting at full leaf stage	2.8-4.7
Mature trees and wine crop	During the growing season	4.7-9.4
Vegetables	During the growing season	2.8-4.7
Strawberries	When plants well established	2.8-4.7
Blueberries	10 days after plants are well established	2.8-4.7

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

PACLOBUTRAZOL 23% & 40% SC

Paclobutrazol (PBZ) is a plant growth regulator, widely used in many crops in order to produce fruit throughout the year by inhibiting gibberellin synthesis, a hormone responsible for vegetative plant growth.
Paclobutrazol inhibits shoot growth and causes dwarfing while increasing fruit bud formation, flowering, and fruit set. This plant growth regulator improves pest and disease tolerance, resistance to fungal disease, and reduces pruning demands. The use of Paclobutrazol increase chlorophyll content. Paclobutrazol acts as a stress protectant by maintaining relative water content, membrane stability index, photosynthetic activity, and photosynthetic pigments, and thereby enhancing the yield.

MODE OF ACTION:

On application on plants, the biosynthesis of gibberellic acid is blocked. This application results in a restriction of terminal growth, and the shoot, leaves, and internodes therefore remains of shorter length. The diameter of the trunk and branches is also reduced. The ABA and the chlorophyll component phytol are also increased, which results in florigen formation and ultimately flowering in the terminal shoots.

DOSAGE AND APPLICATION METHODS:

The application of Paclobutrazol can be done by soil drenching or collar drenching.

Crop		Dosage of 23%	Mode of application	Effect
Mango	Age 7-15 Yrs	15 ml	Soil application	Growth reduction, flower retention, increased sex ratio, flowering and yield
	Age 16-25 Yrs	20 ml		
	Age more than 25 Yrs	25-40 ml		
Pineapple		150 mg/L	Foliar spray	Delayed harvesting and yield improvement
Litchi		15 ml per tree	Soil application	Growth reduction, enhanced flowering and yield
Peach, Apricot, Grape		0.5-1.25 ml/L	Soil application	Growth regulation, enhanced flowering and yield
Avocado		0.5-1.25 ml/L	Foliar application	Yield enhancement
Apple		0.5-1.25 ml/L	Foliar application	Yield improvement
Guava		0.5 ml/L	Foliar application	Yield improvement, Growth reduction
Rice		0.5 ml/L	Foliar application	Increase in grain yields and improvement in grain qualities, increase in the number of spikelets per panicle and seed setting rate. Paclobutrazol treatment also significantly improves head rice rate & amylose content. Increase in stress enzyme Superoxide Dismutase (SOD) and peroxidase (POD) activities
Cotton		0.5 ml/L	Soil application, when plant height reaches 40-50 cm	Decline in Verticillium wilt disease in cotton, increase in yield
Maize		0.5 ml/L	Seed soaking with Paclobutrazol	Increase in maize grain yields
Lentils		0.5 ml/L	11-12 leaf stage, foliar treatment	Increased dry matter production, seed yield, harvest index and yield components in lentils

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

GIBBERELLIC ACID

Gibberellic acid is widely used in agriculture due to its properties as a plant growth regulator. Gibberellic acid is involved in the induction of seed germination, the promotion of shoot growth, the lengthening of internodes, the determination of a plant sex expression, and the promotion of flowering. The Gibberellic acid application also leads to an increased rate of cell division.

BENEFITS:

- Helps in stimulating rapid stem and root growth, induces mitotic division, and also increases seed germination rates.
- Ensures a high-quality fruit yield that is more resistant to adverse weather and other potential avenues of decay and injury.
- Gibberellic acid contributes to bud and flower development.

AVAILABLE FORMULATIONS AND DOSAGES:

Formulation	Dosage	Target crops
Gibberellic Acid 40% WSG	2.5-10 gm product in 60-100 litres of water	Rice, Grapes, Pineapple, Apple, Cherries, Berries, Citrus, Watermelon etc.
Gibberellic Acid 10% SL	200-250 ml in 500 liters of water	Paddy, Cotton, Groundnut, Wheat, Sugarcane, Okra, Brinjal, Grapes and Cucurbits crops.
Gibberellic Acid 20% SL	125-175 ml in 500 litres of water	Rice, Sugarcane, Cotton, Groundnut, Banana, Cabbage, Cauliflower, Grapes, Brinjal, Okra, Mulberry etc.

APPLICATION METHOD:

Can be applied by foliar spray and drench application as per the requirement.

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

FORCHLORFENURON (C.P.P.U.) 0.1% L

Forchlorfenuron (C.P.P.U.) is a highly active cytokinin-like plant growth regulator that promotes chlorophyll biosynthesis, cell division, and cell expansion. CPPU (N-(2-chloro-4-pyridyl)-N[1]-phenylurea), a new synthetic phenyl urea derivative of cytokinin, increases plant growth by inhibiting cytokine oxidase, a regulator of cytokinin activity. It acts synergistically with natural auxins to promote plant cell division and lateral growth.

BENEFITS:

- It is effective on grapes for increasing fruit size.
- Stronger cap stem attachment.
- Delay the harvest in later regions.
- Increase in yield, height, and weight of plants.

AVAILABLE FORMULATIONS AND DOSAGES:

Crop	Dosage (L/ha)	Effect
Blue berries	1-2	Berry size increased
Rabbiteye blue berries	1-2	Berry size and berry set increased
Bush berries (Black Currant, Red Currant, Elderberry, Gooseberry and Lingonberry)	1-2	Berry size increased
Seedless grapes	1-2	Increased berry size, improved cluster weight & total yield. Improved fruit quality in cold storage and delay in grape maturation
Seeded grape for fresh market	1-2	Increased berry size, improved cluster weight & total yield
Seeded grapes for wine	1-2	Increased berry set, or berry size
Seeded grapes for wine	1-2	Increased berry set, or berry size
Grapes for raisin	1-2	Increased fruit set and/or berry size, and may affect drying ratio
Kiwi fruit	0.5-1	Increased fruit size
Pears	0.5-1	Increased fruit size resulting in increased yield
Cherries (Sweet)	0.5-1	Increased fruit diameter
Figs	0.5-1	Maximize the number of figs
Pistachios	1-2	Increased nut weight
Plum/Prune	1-2	Increased fruit set

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

TRIACONTANOL

Triacontanol is a natural plant growth regulator found in epicuticular waxes. It is a saturated long-chain alcohol that is known to have a growth promoting activity when exogenously supplied to a number of plants. Triacontanol enhances the physiological efficiency of the cells and, thus, exploits the genetic potential of plant to a large extent. In fact, Triacontanol increases free amino acids, reduces sugars, and soluble protein in plant body. Triacontanol increases the dry matter production and this leads to inter-relationship between primary and secondary metabolism, and thus an increased biosynthesis. It is an incredibly versatile phyto-hormone which can be used with any type of plant.

BENEFITS:

- Helps in increasing the rate of photosynthesis in the plants, which leads to superior plant growth and development.
- Increase the protein biosynthesis in the plant for better yield production.
- Enhance the transport of nutrients in a plant and enzyme activity.
- Enhances seed germination and proper root growth in the plants.
- Increases the energy storing capacity in the plant cell mitochondria.
- Helps in opening the stomata.

AVAILABLE FORMULATIONS AND DOSAGES:

Formulation	Dosage	Application rate	Method of Application
Triacontanol 0.1% EW	**250 ml/ha**	Two to three spray as recommendation	Foliar Spray
Triacontanol 0.05% EC	**625 ml/ha**	Two to three spray at 45, 65, and 85 days after planting	Foliar Spray

TARGET CROPS:

Potato, Cotton, Tomato, Rice, Chilly, Groundnut, and Leafy vegetables

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

ETHEPHON

A versatile plant growth regulator, Ethephon enhances fruit colour and accelerates the uniform ripening of fruits such as tomato, mango, and pineapple. It can be used for specific purposes such as breaking alternate bearings in mango trees and defoliating pomegranates. In rubber plants, after application, it stimulates bleeding which results in increased latex flow and yield boost.

MODE OF ACTION:

It is a plant growth regulator with systemic properties. It penetrates into the plant tissues and is translocated and progressively decomposed into ethylene, which positively affects the growth process.

BENEFITS:

- Improves coloration and accelerates the uniform ripening of fruits like pineapple, mango, and tomato.
- Helps in breaking the alternate bearing of mango and induces profuse flowering.
- Increases Latex flow in the rubber plantation.

TARGET CROPS AND APPLICATION METHODS:

Crop	Purpose	Time
Mango	For breaking alternate bearing tendencies	First spray in mid-October or early November, Total 5 spray at fortnightly interval
Mango	For flower induction	Commencing from early November, Total 5 sprays at weekly interval
Mango	Post-harvest treatment	Dip mature fruits in the solution for uniform ripening. One treatment is required
Pineapple	For flower induction	30-37 leaf stage or 10-12 months. One spray is required
Coffee (Arabica & Robusta)	For Uniform ripening of berries	One spray at fly picking stage when 10-15% of berries have ripened
Tomato	Post-harvest treatment	Post-harvest treatment can be done by dipping once
Rubber	For latex flow	For application of Ethephon, one hole (20 mm diameter, 30 cm deep) is made at an angle of 45 degrees in a downward direction on the base of each tree trunk (0.3–0.4 m above the collar) with the help of a tree borer or brushing once in one or two months on the tapping cut of the bark in March, August, September, and November (four applications)
Pomegranate	Defoliation for better flowering & fruit set	One spray around one month before Mrig bahar (June-July), Hast bahar (October-November) or Ambe bahar (December-January)

DOSAGES:

Product	Dosage
Ethephon 39% SL	500-750 ml/ha
Ethephon 48% SL	450-575 ml/ha
Ethephon 72% SL	300-375 ml/ha

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

MYCORRHIZAE

(Glomus intraradices / Rhizophagus irregularis)

Mycorrhizae is an environmental friendly, phosphate-solubilizing, and nutrient-mobilizing fungal product containing Vesicular Arbuscular Mycorrhizae (VAM), also named as Ecto & Endo- Mycorrhizae. It defines the mutually beneficial relationship between the plant and the root fungus. It also protects plants from disease-causing organisms at their roots. It helps in improving the soil's fertility.

Mycorrhizae releases powerful enzymes into the soil that dissolve hard nutrients such as organic nitrogen, phosphorus, iron, and other tightly bound nutrients.

MYKIN (Conc. Mycorrhizae Powder 3500 IP/gm)

Concentrated Mycorrhizae with Root Development Base

A high-quality microbial fungus enriched with a large amount of plant growth stimulant. It is an excellent yield enhancer for crops that boost growth rapidly. Concentrated Mycorrhizae is an advanced formulation plant supplement that promotes seedlings, cuttings, transplants, and direct sown crops. Mycorrhizae are non-phytotoxic and can be used for soil or foliar applications. It can be applied through drip irrigation, fertigation, or sprayer systems. This formulation is in powder form with 3500 IP/gm.

Direction for use: 250-500 gm/hectare for soil application, and 1-2 gm/Kg as seed treatment. Seed treatment assures an increase in yield of 15%.

MYCOPEP (Mycorrhizae Granules 1200 IP/gm)

Enhanced Performance with Root Development Base

This product is used as root stimulator and also provides organic nutrients. This nutrients boost the performance and effectiveness of mycorrhizae in soil. It is coated on bentonite granules.

BENEFITS:

- Increase the surface absorbing area of roots 100 to 1000 times.
- Healthier and denser root system.
- Improved ability to get nutrients from the soil.
- Significantly lower need for irrigation.
- Improves tolerance from drought, salt, and prevents nutrition imbalance.
- Increase plant resistance to pathogens and fungal diseases caused by *Fusarium* and *Phytophthora*.
- Reduce the use of DAP up to 40% in a single season.
- Decrease the mortality rate of the plant after transplantation.
- Improves organic matter and soil structure.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

MICROBIAL NPK

(Nitrogen, Phosphorus and Potassium Solubilizing Microbial Consortia)

Microbial NPK is a microbial consortia which is an exceptional bio-fertilizer that serves as a complete nutrient source for plants. This innovative blend features a harmonious trio of microorganisms: Nitrogen Fixing Bacteria, Phosphate Solubilizing Bacteria, and Potassium Solubilizing Bacteria. Together, these microbes work in synergy to fix atmospheric nitrogen, convert insoluble phosphate and potash into accessible forms, ensuring crops receive a well-balanced and readily available nutrient supply, ultimately promoting healthy plant growth and higher agricultural yields.

CFU Count: $2x10^9$ CFU/gm

BENEFITS:

- Enhance the utilization of atmospheric nitrogen.
- Convert insoluble phosphate into a soluble form.
- Mobilize fixed and remaining potash within the soil.
- Helps the crop with better germination, early emergence, and better root development.
- Recommended in organic farming and gardening.
- Increases plant drought tolerance under drought conditions.
- Increase the yield by 20 - 30% and the quality of the produce.
- Eco- friendly solution, supports sustainable agriculture by optimizing nutrient use efficiency.
- Soil health improvement through nutrient cycling and organic matter decomposition.

RECOMMENDED CROPS:

Suitable for all crops Paddy, Wheat, Maize, Groundnut, Sugarcane, Grapes, Pomegranate, Citrus, Banana, Tea, Coffee, Coconut, Vegetables, and Flowers

DOSAGE:

1.5 L per hectare

APPLICATION TIME:

1st Application: During soil preparation/ seed sowing/ plantation/ two (2) leaf stage by means of Broadcasting with manure/ foliar/ drenching.

2nd Application: 15 days after 1st application by means of drenching/drip/ furrow or channel irrigation.

3rd Application: During the booting and pre-flowering stage.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Bio-Fertilizers

BRADYRHIZOBIUM JAPONICUM

Bradyrhizobium japonicum is a species of legume-root-nodulating, microsymbiotic nitrogen-fixing bacteria that serves as an effective biofertilizer. Known for its acid tolerance, it belongs to the Rhizobium family. It forms nodules on the roots of legume plants, fixing atmospheric nitrogen and making it readily available for plant use. It promotes ecological balance and reduces reliance on chemical fertilizers, making it an invaluable resource for farmers.

CFU Count: $2x10^9$ CFU/gm

BENEFITS:

- Boosts germination of seeds.
- Improves soil fertility & enhances nutrient mobility.
- Enhance better absorption of nutrients & water.
- Convert & fix atmospheric nitrogen & make it available in an easily absorbable form to plants.
- Helps plants to withstand abiotic stress.
- Enhances crop quality & yield.

APPLICATION METHOD & DOSAGES:

Seed treatment: 1-2 gm/kg of seeds
Soil application: 250-500 gm/ha

RECOMMENDED CROPS:

All leguminous crops Soyabean, Groundnut, Oil seeds crop, etc.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Bio-Fertilizers

Bio-Fertilizers are living microbial fertilizers that help in plant growth either by solubilizing or mobilizing nutrients or by growing in the plant's rhizosphere (commonly known as the root). The Bio-Fertilizers include various microorganisms like beneficial bacteria and fungi; these two are very successful in colonizing the rhizosphere, rhizoplane, or root interior and easing the plant's overall growth and development.

CFU Count: $1x10^8$ CFU/gm
Dosage: 2.5 - 5 kg/ha
Mode of Application: Soil Drenching, Soil Application, and Drip irrigation.

AVAILABLE BIO-FERTILIZERS:

1. NITROGEN FIXING BACTERIA

Nitrogen fixing bacteria circulate atmospheric nitrogen and plays a very crucial role in nitrogen fixation through the ecosystems. These bacteria catch nitrogen from the air and adjust to fix that nitrogen in plants. The crops use this atmospherically fixed nitrogen for growth through nitrogen assimilation.

BENEFITS:

- Nitrogen is part of the chlorophyll molecule, which gives plants their green colour and is involved in creating food for the plant through photosynthesis. Nitrogen fixing bacteria help in the easy fixing of this nitrogen.
- It also helps in flower differentiation, promotes speedy shoot growth, improves the health of flower buds, and increases the quality of fruit set.

2. PHOSPHORUS SOLUBILIZING BACTERIA

Phosphate-solubilizing bacteria (PSB) are included in every one of the effective organisms for plant growth-promoting rhizobacteria (PGPR), which are widely used as Bio-Fertilizers for plant growth and nutrient use efficiency. These soil micro-organisms play a big role in regulating the dynamics of organic matter decomposition and also the availability of plant nutrients like nitrogen (N), phosphorus (P), potassium (K), and other nutrients.

BENEFITS:

- Produce organic acids such as malic, succinic, fumaric, citric, hydroxy, and ethanoic acids to accelerate P_2O_5 uptake, maturity, and yield.
- Reduce the 25–30% phosphatic fertilizer requirement. An effective alternative to DAP.

3. POTASSIUM SOLUBILIZING BACTERIA

Potassium solubilizing microorganisms, solubilize fixed forms of potassium to plant available K by various mechanisms including acidolysis, chelation, exchange reactions, complex lysis, and the production of organic acids. Potassium solubilizing bacteria (KSB) are ready to enhance plant growth and yield.

BENEFITS:

- KSB dissolves silicate minerals and releases K through the assembly of organic and inorganic acids, acidolysis, polysaccharides, complex lysis, chelation, and exchange reactions.
- It promotes the activation of enzymes, the use of nitrogen and also the synthesis of sugars and proteins.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

4. ZINC SOLUBILIZING BACTERIA

ZSB are one of the capable microbes that can simply regulate plant growth-promoting properties like Zn, P, and K solubilization, biological processes, and the production of phytohormones like kinetin, indole-3-acetic acid (IAA), and gibberellin. ZSB secrete a variety of organic acids that convert the fixed form of zinc into an available form, promoting plant growth, yield, and soil fertility.

BENEFITS:

- It is plant growth-promoting rhizobacteria (PGPR) which helps in organic farming practices to reinforce zinc solubilization and its availability to plants.
- Zinc helps in the production of important growth hormones and also helps in the internode elongation in plants.

5. MAGNESIUM SOLUBILIZING BACTERIA

This bacterium ensures the easy availability of magnesium to the plants for their healthy development. It converts insoluble forms of magnesium nutrients into easy and absorbable forms, making them very effective fertilizers in mineral deficient soils. Magnesium is centrally bound in the chlorophyll molecule in plant tissue. Thus, if Mg is deficient, the shortage of chlorophyll ends up in poor and stunted plant growth.

BENEFITS:

- Magnesium helps in the activation of specific enzyme systems.
- Helps plants in overcoming chlorophyll deficiency and stunted growth.

6. SILICA SOLUBILIZING BACTERIA

Plants can uptake Si only in the soluble form of mono-silicic acid. Silica Solubilizing bacteria help in the conversion of this insoluble silica into mono-silicic acid, which helps plants by influencing the growth and development of plant roots, thus allowing better root resistance in dry soils and also accelerates the root growth.

BENEFITS:

- Provides an extra level of protection against fungal diseases such as powdery mildew.
- Helps in strengthening the cell walls, provides protection against different environmental stress conditions, and significantly improves the water and mineral uptake abilities.

7. IRON MOBILIZING BACTERIA

The Iron Mobilizing Microorganisms includes bacterial strains that solubilize the unavailable form of iron present in the soil and make it available to the plants in more absorbable and easy forms. These microbes are helpful to the plants in various ways, helping to build strength and immunity in the plant along with a good yield.

BENEFITS:

- Iron participates in the synthesis of chlorophyll and is required for the maintenance of chloroplast structure and function.
- Plays a critical role in metabolism processes like DNA synthesis, respiration, and photosynthesis.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Trichoderma viride

CFU Count: $2x10^6$ CFU/gm min.

BENEFITS:

- Eco-friendly bio-fungicide, does not cause any harm to the environment and non-targeted beneficial pest.
- Protects crops in nursery beds and in the field from a variety of soil-borne or seed-borne pathogens through the action of mycoparasitism and antibiosis.
- Decomposes raw organic farm waste, solubilizes soil phosphorus, reclaims contaminated soils, promotes plant growth, and safeguards the soil eco-system.
- Promotes plant growth and vigour while also increasing plant resistance to drought and disease.
- Compatible with organic manures and bio-fertilizers.

TARGET CROPS :

Paddy, Maize, Rice, Pulses, Vegetable crops, Oil seeds, Cotton, Ginger, Turmeric, Cardamom, Tea, Coffee, and Fruits crops etc.

TARGET PATHOGENS :

Highly effective to control the *Pythium spp., Rhizoctonia spp., Fusarium spp., Sclerotinia spp. Macrophomina, Cephalosporium sp., Sclerotium rolfsii, Phytophthora spp.*

DOSAGE AND APPLICATION METHODS:

Seed Treatment:
10 gm of formulation mix in 50 ml. of water and applied on 1 Kg of seed uniformly, shade dry the seeds for 20 to 30 minutes before sowing.

Nursery Bed Treatment:
Mix 50 gm of formulation in 10 L of water and drench nursery bed 1 Sq. meter at time of seeding.

Seedling Treatment:
Dissolve 100 gm of formulation in 10 L of water and dip the roots of seedlings for 30-45 min before transplanting.

Soil Application:
Mix 2.5 kg with 50 Kg FYM and broadcast in a one-hectare field before sowing.

Foliar Application:
Mix 5 gm with 1 L of water.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Trichoderma harzianum

CFU Count: $2x10^6$ CFU/gm min.

BENEFITS:

- Eco-friendly bio-fungicide, does not cause any harm to the environment and non-targeted beneficial pest.
- Protects crops in nursery beds and in the field from a variety of soil-borne or seed-borne pathogens through the action of mycoparasitism and antibiosis.
- Decomposes raw organic farm waste, solubilizes soil phosphorus, reclaims contaminated soils, promotes plant growth, and safeguards the soil eco-system.
- Promotes plant growth and vigour while also increasing plant resistance to drought and disease.
- Compatible with organic manures and bio-fertilizers.

TARGET CROPS :

Paddy, Maize, Rice, Pulses, Vegetable crops, Oil seeds, Cotton, Ginger, Turmeric, Cardamom, Tea, Coffee, and Fruits crops etc.

TARGET PATHOGENS :

Highly effective in controlling pathogens such as *Pythium spp., Rhizoctonia spp., Fusarium spp., Sclerotinia spp., Macrophomina, Cephalosporium spp., Sclerotium rolfsii, Phytophthora spp.,* and *Meloidogyne spp.* (root knot nematodes).

DOSAGE AND APPLICATION METHODS:

Seed Treatment:
Mix 10 gm of formulation in 50 ml of water and applied on 1 Kg of seed uniformly, shade dry the seeds for 20 to 30 minutes before sowing.

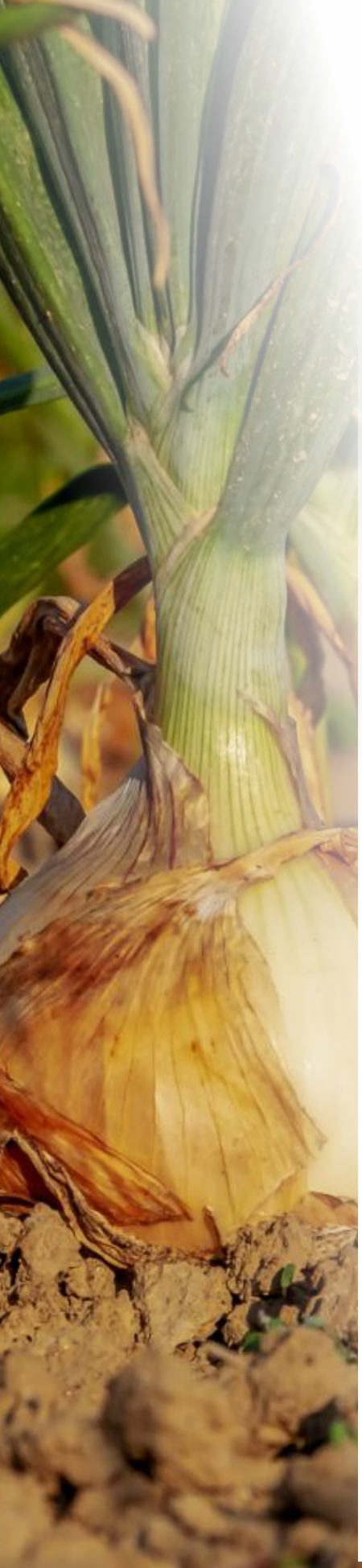
Nursery Bed Treatment:
Mix 50 gm of formulation in 10 L of water and drench nursery bed 1 Sq. meter are at time of seeding.

Seedling Treatment:
Dissolve 100 gm of formulation in 10 L of water and dip the roots of seedlings for 30-45 min before transplanting.

Soil Application:
Mix 2.5 kg with 50 Kg FYM and broadcast in a one-hectare field before sowing.

Foliar Application:
Mix 5 gm with 1 L of water.

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.



Trichoderma asperellum

Trichoderma asperellum is a highly effective biofungicide that not only controls a wide range of fungal diseases and soil-borne pathogens but also promotes healthier plant growth. It works by antagonizing and parasitizing harmful fungi, colonizing the root system, and stimulating the plant's natural defense mechanisms. Due to its rapid growth, *T. asperellum* efficiently consumes available oxygen, captures essential nutrients, and occupies space within the soil, effectively outcompeting and inhibiting harmful fungi. Additionally, it reduces reactive oxygen species (ROS) in plants, offering further infection protection.

CFU Count: 1×10^8 CFU/gm

WORKING MECHANISM:

Upon application, *T. asperellum* hyphae wrap around crop roots, forming a protective barrier that blocks pathogen invasion. Additionally, it produces antimicrobial compounds, such as polyketides and alkanes, along with volatile organic compounds (VOCs) that inhibit the growth of competing fungi. This biofungus activates plant defense mechanisms by producing phenolic compounds and enzymes like peroxidase (POX), polyphenol oxidase (PPO), and phenylalanine ammonia-lyase (PAL), collectively enhancing the plant's resilience against environmental stress and pathogens.

TARGET PATHOGENS AND DISEASES:

Fusarium spp., White rot (Black sclerotia), Damping-off, Root-rot disease, and Collar rot

TARGET CROPS:

Tomato, Capsicum, Chilli, Cauliflower, Cabbage, Onion, Garlic, Pea, and Bean

DOSAGE & APPLICATION METHOD:

Nursery bed treatment: Mix 15-25 gm of formulation in 6-8 ltr of water & drench 1 Sq. meter area
Seed treatment: 5-8 gm/Kg of seeds
Soil application: Mix 3-5 Kg with 50 Kg of FYM & broadcast in one hectare
Soil drenching: 5-10 gm/L of water
Foliar application: 5-10 gm/L of water

Note: For optimal results, apply as a soil drench or foliar spray at the recommended dosage of 1-2 grams per liter of water, with applications repeated every 15 days.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

OMRI LISTED For Organic Use

Bacillus subtilis

Bacillus subtilis is a Bio-Fungicide and plant growth promoting rhizobacteria (PGPR), which colonizes on roots and protects the root system of the plant. It hinders spore germination in plant pathogens and prevents pathogens from attaching to the plant; it outcompetes other soil microbes, making it exceptional for soil-borne, leaf and fruit fungal diseases. It improves nitrogen fixation, solubilizes soil phosphorus, and produces siderophores, which have bio control potential (promote plant growth while suppressing pathogen growth). It helps plant in secondary metabolites production, regulation of intracellular phytohormone activity, and increased stress tolerance.

CFU Count: $1x10^8$ CFU/ml min.

BENEFITS:

- Competitive effects of *Bacillus subtilis* allow it to multiply and colonize massively and rapidly, due to which infection of plant pathogenic microorganisms on plants occurs, which helps in achieving antibacterial and disease-preventing effects.
- Antibacterial and bacteriostatic activities of *Bacillus subtilis* allow it to produce various substances such as subtilin, organic acids, antibacterial proteins, etc. These substances inhibit the growth and reproduction of pathogenic bacteria, destroy the bacterial structure, and kill pathogens.
- Enhance the plant's disease resistance by inducing the plant's disease resistance potential.

TARGET CROPS :

Berry, Citrus, Banana, Grape, Strawberry, Tropical Fruits, Coffee, Cole Crops, Corn, Cucurbit vegetables, Fruiting vegetables, Leafy vegetables, Legume vegetables, Mushrooms, Oilseed crops, Root/ Tuber/ Bulb crops, Seed crops, Spices, Nuts, Turf Grass, Watercress, Nursery plants, and Ornamental plants.

TARGET DISEASES :

Downey mildew, Powdery mildew, Leaf blight, Double rot, Gray mold, Root rot, Root wilt, Seedling rot, Early blight, Late blight, Leaf spot, Stem rot, and Mildew diseases in crops.

DOSAGE AND APPLICATION METHODS:

Seed Treatment:
Mix 10 ml formulation with 10 gram of crude sugar and apply uniformly on 1 Kg of seeds. Shade dry the seeds for 20-30 min before sowing.

Drench Application:
Mix 5-12 liter formulation in 250 L of water and drench the soil over 1 hectare.

Foliar Application:
Mix 5-12 liter formulation in 250 L of water and apply it with the sprayer in 1 hectare of land.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Pseudomonas fluorescens

CFU Count: 1 x 10^8 CFU/gm min.

BENEFITS:

- Protect crops from a number of soil borne/seed borne plant pathogens.
- Nature-friendly and active against specific plant pathogens.
- Induces resistance in plants against pathogens.
- Helps in controlling pathogenic nematodes present in soil.
- Promotes plant growth through its PGR activity.

TARGET CROPS:

Vegetable crops, Oil seeds, Cotton, Paddy, Maize, Rice, Pulses, Sugarcane, Ornamental crops, and Fruit crops

TARGET PATHOGENS:

Highly effective against various plant pathogens such as *Fusarium spp., Verticillium spp., Phytophthora spp., Pythium spp., Rhizoctonia spp., Botrytis spp., Sclerotium spp., Sclerotinia spp., Xanthomons spp. etc.*

DOSAGE AND APPLICATION METHODS:

Seed Treatment:
Mix 10 gm of formulation in 40 ml. of water and apply on 1 Kg of seed uniformly, shade dry the seeds for 20 to 30 minutes before sowing.

Nursery Bed Treatment:
Drench nursery beds (one Sq meter) with @ 5-8 gm of *Pseudomonas fluorescens* formulation per liter of water before sowing the seeds specially for transplanted crops like Paddy, Capsicum, Eggplant, Tomato, Cabbage and Cauliflower etc.

Seedling Treatment:
Dissolve 100 gm of formulation in 10 L of water and dip the roots of seedlings for 30-45 min before transplanting.

Soil Treatment:
Mix 2.5-4 Kg of *Pseudomonas fluorescens* formulation in 250 Kg of FYM/ compost/ well decomposed organic manure and broadcast in the field (1 hectare per 10,000 Sq. mtr.).

Foliar Application:
Spray 4.0 gm/L to protect blast and blight diseases of paddy crop after 40-45 days of transplanting.

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Bacillus thuringiensis var. kurstaki

Bacillus thuringiensis (Bt) is a species of bacteria that lives in soil. *Bacillus thuringiensis* is widely used in agriculture for insect pest control. The endotoxins produced by this bacterium are found in a crystalline inclusions. In addition to the toxic endotoxins, other proteins are involved in the invasion of the host and which blocks the host's immune defences. These proteins are not toxic to all mammals, as they cannot get activated inside the mammalian system.

IU: 18000 IU/mg min.

MODE OF ACTION:

Bacillus thuringiensis (Bt) produces the Crystal (Cry) and Cytolitic (Cyt) protein families, a diverse group of proteins with activity against insects of different orders - Lepidoptera, Coleoptera, Diptera, as well as against other invertebrates such as nematodes. Their primary action consists of lysing midgut epithelial cells by introducing them into the target membrane and forming pores.

BENEFITS:

- Reduce reliance on chemical insecticides and make Bt-protected crops an obvious choice for product development with highly effective pest control.
- It is highly specific and does not show any adverse effects on humans or animals.
- Supplemental in the pest control by enhancing populations of beneficial organisms.
- Helps in increasing the infestation free yield of the crops.

TARGET PESTS:

European corn borer, South-western corn borer, Tobacco budworm, Cotton bollworm, Pink bollworm, and Colorado potato beetle

TARGET PLANTS:

Cabbage, Broccoli, Potato, Corn, Cotton Turnip, Greens vegetables, Cauliflower, Melons, Cotton, Corn, Lettuce, Tomato, Ornamentals and many more.

DOSAGE:

Foliar application is recommended at a dosage of 3-5 gm/L of water.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Metarhizium anisopliae

Metarhizium anisopliae is a biological insecticide which is an entomopathogenic fungus that causes muscardine disease on a range of insects like different bugs, weevils, and hoppers.

When spores of *Metarhizium anisopliae* come into contact with a host's cuticle by any means, the fungus rapidly grows and proliferates inside the insect. Once inside the body, it produces toxins that initiate protein degradation. The insect eventually dies as a result of chemical, mechanical, water loss, and nutrient loss effects. The killing speed depends on the number of spores contacting the insect, the insect's age, susceptibility, and environmental conditions.

CFU Count: $1x10^8$ CFU/gm min.

BENEFITS:

- Controls crop pests, which have economic importance in agriculture.
- Eco-friendly and helps maintain the ecological balance, making it recommended for sustainable agriculture.
- Helps in the elimination of disease-causing pests and leads to improved plant health and, thereby, increased crop productivity.
- It does not cause harm to beneficial parasites or useful predators. It has excellent potential for thrips control in various crop ecosystems. It can also be applied during harvesting.

TARGET CROPS:

Fruit crops, Cole crops, Sugarcane, Cotton, Groundnut, Maize, Sorghum, Barley, Rice, Potato, Soybean, and Ornamentals in greenhouses, nurseries, etc.

TARGET INSECTS:

Root weevils, Black vine weevil, Spittlebug, White grubs, Termites, Japanese beetle, Caterpillar, Semi toppers, Beetle grubs, Borers, cutworms, Sucking pests like Pyrilla, Mealy bugs & Aphids

DOSAGE AND APPLICATION METHODS:

Foliar Spray:

2.5-4 Kg of formulation in 400 L of water. The spray volume of *Metarhizium anisopliae depends* on the crop canopy. Filter the solution with muslin cloth before spray on the target pest. Spray should be done during evening hours on both sides of the leaves.

Soil Application:

Mix 5 Kg of formulation with 400 Kg of FYM/ compost /well decomposed organic manure. Spray some water for moisture and cover it with a polythene sheet. Remix the heap after 4 days and again cover the heap. This process should be done under shade. After complete process (8-10 days), broadcast this mixture into 1-hectare field.

Soil Drenching:

Mix 10 gm per L in water and drench.

*Recommended to mix with spreader or adjuvants

*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Beauveria bassiana

Beauveria bassiana is a unique biological insecticide. It is a fungus that naturally grows in soil. It is an entomopathogenic fungus that causes white muscardine disease in a variety of sap-sucking insects such as whiteflies, aphids, and thrips.
When *Beauveria bassiana* spores come into contact with a target pest, they germinate quickly and grow inside the insect via the spiracles in the cuticle. After spreading throughout the insect's body, the fungus produces toxins, drains all of the nutrients, and eventually kills the insect. The activity of this fungus is favoured by warm and humid weather. The killing speed is determined by the number of spores that contact the insect, the insect's age and susceptibility, and the environmental conditions.

CFU Count: NLT 1 x 10^8 CFU/gm or ml

BENEFITS:

- Naturally occurring, eco-friendly entomopathogenic fungus.
- Effectively controls most of the economically important crop pests.
- Pest control improves crop health, which increases productivity.
- Residues are not harmful to consumers and can be used up until the day of harvest.

TARGET CROPS:

Cereals, Pulses, Vegetables, Fruit crops, Cole crops, Orchards, Cotton, and Ornamentals in greenhouses, nurseries, lawns, & landscapes

TARGET INSECTS:

Caterpillars, Weevils, Borers, Leafhoppers, Jassids, Whitefly, Aphids, Thrips, Mealybug, Fungus gnats, Mites, and May beetles

DOSAGE AND APPLICATION METHODS:

Foliar spray:
Mix 5 Kg *Beauveria bassiana* formulation in 400 L water, filter with muslin cloth and spray in one hectare / affected area.
Soil application:
Beauveria Bassiana formulation can be sprinkled around the root-zone and incorporated into the soil either mechanically or through watering the plant. It can also be incorporated into the soil through irrigation systems during the pre or post planting stage (Filter the mixture before using the sprayer).
For greenhouse pest problems, repeat the applications every 15-20 days.
Beauveria bassiana formulation (4 Kg) can be mixed with 100-150 Kg of FYM/ organic fertilizer or field soil and can be broadcasted in field uniformly.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

AZADIRACHTIN (NEEM)

Azadirachtin is a primary insecticidal compound found in neem oil. Azadirachtin based pesticides are one of the most effective broad spectrum bio-pesticides. Azadirachtin, together with other constituents of neem seeds, exhibits insect repellent, antifeedant, and insect growth regulator properties.

MODE OF ACTION:

Azadirachtin primarily works as an anti-feedant, which disrupts insect's normal growth and molting, repels larvae and adults, sterilizes adults, and deters egg laying. It effectively prevents insects from destroying the crop.

BENEFITS:

- Produce a great variety of secondary metabolites potentially applicable in IPM programs.
- A broad spectrum pesticide with active action on more than 600 pest species.
- Minimizes the potential risk of insect resistance.
- Azadirachtin is very well received by the root system, and subsequently, it is systematically distributed through the xylem into the green parts of plant tissues and stored in leaves in an unchanged form.
- Harmless to non-target and beneficial organisms like earthworms, honey bees, mammals, and other vertebrates.
- Safe to use with conventional and special fertilizers simultaneously.
- Organic, non-toxic, 100% biodegradable, and eco-friendly.

AVAILABLE FORMULATIONS AND DOSAGE:

Formulation	Dosage
Azadirachtin 0.03% EC (300 ppm)	5 L/ha
Azadirachtin 0.15% EC (1500 ppm)	3 L/ha
Azadirachtin 0.3% EC (3,000 ppm)	2 L/ha
Azadirachtin 1% EC (10,000 ppm)	1-1.5 L/ha
Azadirachtin 1.2% EC (12,000 ppm)	750 ml-1 L/ha
Azadirachtin 3% EC (30,000 ppm)	400-600 ml/ha
Azadirachtin 5% EC (50,000 ppm)	250-400 ml/ha

TARGET PESTS :

- Azadirachtin is a broad-spectrum pesticide that affects over 600 species of pests, including insects, nematodes, fungi, and viruses.
- Thrips, Jassids, Aphids, and White Flies; and Chewing Pests Like *Helicoverpa*, *Spodoptera*, and Loopers.

TARGET PLANTS:

Fruits, Vegetables, Plantation crops, Greenhouses, Turf, Outdoor Ornamentals, and Agricultural crops such as Sugarcane, Paddy, Cotton, and Tea.

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

KARANJA OIL

Karanja Oil is also utilized as an agricultural bio-insecticide and pest repellent due to its natural properties. Karanja oil, derived from the seeds of the Pongamia pinnata tree, is an effective and eco-friendly agricultural insecticide and pest repellent. This natural oil has gained popularity among farmers for its ability to protect crops from a variety of pests while minimizing harm to the environment and beneficial insects.

BENEFITS:

- **Natural pest repellent:** Karanja oil contains compounds such as karanjin and pongamol, which have insecticidal and repellent properties. When applied to crops, it acts as a natural barrier against a wide range of agricultural pests, including aphids, whiteflies, caterpillars, and mites.
- **Broad-Spectrum pest control:** Karanja oil can be used on various crops, including vegetables, fruits, and field crops. Its versatility makes it an attractive option for integrated pest management strategies.
- **Environmentally friendly:** Unlike synthetic chemical pesticides, Karanja oil is biodegradable and does not persist in the environment. It poses a lower risk to non-target organisms, such as beneficial insects, birds, and aquatic life.
- **Residue free:** When used according to recommended guidelines, Karanja oil leaves minimal residue on crops, ensuring that the harvested produce meets food safety standards.
- **Sustainable agriculture:** The production of Karanja oil supports sustainable agricultural practices as it can be cultivated as a renewable resource. The trees also have nitrogen-fixing properties, which can improve soil fertility.
- **Safe for organic farming:** Karanja oil is widely accepted in organic farming practices due to its natural origin and low environmental impact.

DOSAGE AND APPLICATION METHODS:

Karanja Oil can be applied at a dosage of 2-3 ml per L of water as a foliar spray or as a soil drench. Depending on the type of pest and infestation percentage dosage may vary.

TARGET CROPS:

Vegetables, Pulses, Cereals, and Horticultural Crops

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Verticillium lecanii *(Lecanicillium lecanii)*

Verticillium lecanii is a highly effective biological insecticide formulated to combat various insect pests in agricultural and horticultural settings. It is composed of the naturally occurring entomopathogenic fungus *Verticillium lecanii*, which is known for its remarkable ability to control a wide range of damaging insect species. This product is designed to provide a safe and eco-friendly solution to pest management, reducing reliance on synthetic chemical pesticides while promoting sustainable agricultural practices.

CFU Count- $1x10^{8}$ CFU/gm min.

BENEFITS:

- Natural and eco-friendly insecticide.
- Targets a wide range of insect pests.
- Safe for beneficial insects, humans, and the environment.
- Reduces reliance on synthetic chemical pesticides.
- Compatible with various farming systems.
- Promotes sustainable agricultural practices.
- Easy application and user-friendly.

APPLICATION METHOD:

Foliar Spray

TARGET CROPS, INSECT, AND DOSAGES:

Crop(s)	Product parameters	Dosage Kg/ha	Dilution in Water (L/ha)
Citrus & Horticultural Crops	Mealy Bug (*Planococcus citri*)	2.5	550

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Hirsutella thompsonii

It is an entomopathogenic fungus, used as a biological pest control agent against a variety of mites. It induces mycosis in mites, leading to their eventual death, and is also pathogenic to insect groups within Acarida, Lepidoptera, and Hemiptera.

CFU Count: 1×10^8 CFU/g

MODE OF ACTION:

The fungus *Hirsutella thompsonii* infiltrates mites primarily through their legs, initiating the development of hyphal bodies that multiply in chains within the haemolymph. Subsequently, the fungus produces hyphae that break through the mouth, genital openings, and other body regions, dispersing spores across the mite's body. It is an effective bio-miticide and this is harmless to mammals, making it a target-specific and safe biological control option.

TARGET PEST:

- *Varroa destructor* (A parasitic mite that infects honey bees)
- Citrus rust mite
- Broad mite
- Coconut mites
- Red spider mites

TARGET CROPS:

Litchi, Chili, Brinjal, Tomato, Coconut, Citrus, Apple, Cucurbits, Tea, Roses, Cotton & other horticultural crops

DOSAGE:

For effective pest management, foliar application is recommended at a dosage of 3-5 kg/ha. It is adjusted according to pest infestation levels.

Note: Apply 2-3 foliar sprays in the morning using a high-volume sprayer, ensuring thorough coverage of both sides of the leaves. Repeat at 15-day intervals.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Bio-Nematicide

Paecilomyces lilacinus

CFU Count: Min 2 x 10^6 CFU/gm

BENEFITS:

- Effectively controls nematodes like root knot nematodes, burrowing nematodes, cyst nematodes, lesion nematodes, etc. among a wide range of crops.
- A naturally occurring fungus commonly found in soil and widely used as a nematicide is applied to the soil to control nematodes that attack plant roots.
- Actively fight against plant root nematodes by infecting eggs, juveniles, and adult females.

TARGET CROPS:

Maize, Sorghum, Soybean, Chickpea, Cow pea, Eggplant, Potato, Capsicum, Tomato, Cucumbers, Ornamental flowers, Vineyards Ornamentals in greenhouses and nurseries

TARGET DISEASES:

Plant parasitic nematodes present in field soil include Root knot nematodes: *Meloidogyne spp.*; Cyst nematodes: *Heterodera spp.* and *Globodera spp.*; Root lesion nematodes: *Pratylenchus spp.*; Reniform Nematode: *Rotylenchulus reniformis*.

DOSAGE AND APPLICATION METHOD:

Soil Application:
10 Kg of *Paecilomyces lilacinus* formulation to be mixed with 100 Kg FYM / well decomposed organic manure and applied around the rhizosphere uniformly for existing crops in the field is sufficient for one hectare at the time of soil application and repeat after 40 days of planting.

Drip System:
10 Kg of *Paecilomyces lilacinus* formulation to be mixed with 1000 Liters of water and filter the contents well. After filtering it can be incorporated into the soil through the drip irrigation systems either before or after planting. In the case of high nematode population pressures and in perennial crops, multiple applications are recommended.

Soil Drenching:
Mix 10 gm/L in water and drench.

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

Bio-Nematicide

Verticillium chlamydosporium

Verticillium chlamydosporium is a natural and eco-friendly Bio-Insecticide/ Bio-Nematicide specifically designed to safeguard crops from harmful nematodes. Infused with beneficial microorganisms, it provides a targeted and efficient control method, ensuring nematode populations are suppressed while preserving other beneficial insects in the ecosystem. This product offers a safe and sustainable solution for integrated pest management. Easy to apply as a wettable powder, it can be seamlessly incorporated into existing agricultural practices.

CFU Count: 2×10^6 CFU/gm

BENEFITS:

- Natural and eco-friendly Bio-Insecticide/ Bio-Nematicide.
- Effective control of harmful nematodes in soil.
- Preserves beneficial insects and maintains ecological balance.
- Convenient wettable powder formulation for easy application.
- Promotes sustainable agriculture and healthier crop growth.

APPLICATION METHODS:

Soil application and Seed treatment

TARGET CROPS, INSECTS, AND DOSAGE:

Crop(s)	Target Pest(s)	Dosage
Tomato, Brinjal, Okra, Carrot, and other vegetables	Root-knot nematodes (*Meloidogyne spp.*); Cyst nematodes (*Heterodera* & *Globodera spp.*); Root lesion nematode (*Pratylenchus spp.*)	Seed treatment with 20 gm/Kg seeds, 5 Kg/ha as soil application

*Recommended to mix with spreader or adjuvants
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

SILICONE BASED ADJUVANT

(3-(Polyoxyethylene) propyl hepta methyl trisiloxane)

Sil-one is a low molecular weight non-ionic Silicon Polyether Adjuvant Surfactant. The most important member is polydimethylsiloxane. It improves the wetting and spreading. Silone is widely used in the agriculture industry to enhance the performance of agricultural chemicals. It may be used as a formulation ingredient in pesticide products or as a tank-mix adjuvant for foliar-applied chemicals.

APPLICATIONS:

To enhance the performance of agricultural chemicals, especially water-soluble broad-leaf herbicides, insecticides, fungicides, and plant growth regulators.

Use as an Adjuvant refers to the use of this product as an additive to a pesticide for the purpose of enhancing the pesticide's effectiveness for wetting more of the leaf surface and thereby providing rainfastness, i.e., herbicides are not washed off by rainfall because they have penetrated into the plant surface.

FEATURES

- Stable neutral pH 7.0 and improves the biological performance.
- Acts as a good emulsifier, compatible with all aqueous, alcoholic, or solvent based products.
- Lower surface tension.
- Easily soluble in water, alcohol, and hydro alcoholic systems.
- Excellent foam builder.
- It is non-ionic.
- Super spreading, wetting, & penetration surfactant.
- Penetration of Pesticides, Herbicides, Insecticides, Fungicides, Plant Growth Regulators, Liquid Bio-Fertilizer, and Bio-Pesticides improves their uptake into plant tissues and significantly enhances their efficacy especially in case of herbicides.

STANDARD SPECIFICATION:

Product parameters	Specification
Appearance	Clear amber color fluid
Viscosity at 25^{0}C	40 CST
Flash Point	>101^{0}C
Solid Content %	100%
pH	7.0
Surface Tension (0.1% N/m)	21.5
Density	1.02

USES:

- It is used in a very economical dosage of 3-5 ml per 15 L tanker.
- It improves the biological performance of the spray solution.

HOW TO MIX SILONE ADJUVANT IN A TANK:

Use 3-5 ml in a 15 L mix Tank. It is more effective when the tank premix is within pH 5-8 and should be used within 24 Hours.

*Recommended to mix with spreader or adjuvants
*Dossier are available
*The application method is solely for guidance purposes. Application rates will vary due to climate, frequency, soil, etc.
We encourage users to conduct their own testing in order to determine what is best for their crop under their specific conditions and environments.

NOTES

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