

PEPTECH BIOSCIENCES LTD.

Scale Up Your Agro Brand

with PBL as your Manufacturing partner





www.peptechbio.com mail@peptechbio.com



"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 Board 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 approaches in the field of research and development that are sustainable. Peptech provides ingenious, high-quality crop solutions like Biological Fertilizers, Pesticides, Stimulants, along with Synthetic Insecticides and PGRs. The manufacturing process of all products is mechanized with extremely advanced technology, prime for quality production. We are well equipped with high-quality labs and manufacturing units by a strong team of tremendously qualified scientists who are continuously working to meet aspiration of our farmers, 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 with our quality products.



"We work for B2B clients to expand their product portfolio with new 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 toward 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 an array of Agricultural Products. Our experts are engaged in creating new innovative methods to develop 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.

Bio-Stimulants

01-08

09-12

13-15

16-20

32

Amino Acid Mixture Amino Acid Mineral Chelates Aminofert Gold Crop Tiger Aminofert MMF Potassium Humate 98% / 20% / 40% Fulvic Acid 50% / 80% Seaweed Extract Liquid 20%/ 30%

Bio-Fertilizers

Mycorrhizae Bio NPK Nitrogen Fixing Bacteria Phosphorus Solubilizing Bacteria Potassium Solubilizing Bacteria Zinc Solubilizing Bacteria

Special Fertilizers

Soluble Silica With Potassium Soluble Sulphur With Calcium Potassium Thiosulphate

Liquid Micronutrient Fertilizer

Liquid Boron 10% w/w Liquid Calcium 11% SC Zinc Oxide 39.5% SC Zinc Glycinate Calcium Glycinate Boron Glycinate

²¹⁻²⁶ Bio-Pesticides

Trichoderma viride 1.5% WP Trichoderma harzianum 1.0% WP Pseudomonas fluorescens 1.0% WP Bacillus subtilis 1.5% AS Beauveria bassiana 1.15% WP Neem Extract Azadirachtin

27-31 Plant Growth Regulators

Paclobutrazol 23% & 40% SC Gibberellic Acid 40% WSG, 0.001% L & 0.186% SP Triacontanol 0.05% EC, 0.05% GR & 0.1% EW Forchlorfenuron (C.P.P.U.) Ethephon 39% SL

Adjuvant/Spreader

Sil-One (Silicon Adjuvant & Spreader)







AMINO ACID MIXTURE

The powerhouse of plant nutrition

Amino Acids are the molecules that make up the structural units of proteins, each with its own amino group (NH₂), acidic carboxyl group (COOH), and organic R group (or two side chains). While there are hundreds of naturally occurring amino acids, only a core set of 20 comprises the standard genetic code used in protein translation. Amino Acid Mixtures are readily absorbed, transported, and utilized as a source of nitrogen and carbon for plants. It saves the energy used by the plant to reduce organic matter, synthetic nitrates, and ammonia into amino acids and functions as a Bio-stimulants for the plants.

BENEFITS:

- Helps in the chelating and complexing of nutrients.
- All of the Amino Acid Mixtures are 100% water-soluble and leave no residue.
- Stimulates nutrient uptake and increases the chlorophyll content of the leaves of the plants.
- Benefits the energy balance of plants.
- Makes 20 kinds of amino acids available for quick absorption by plants.
- Increases biomass production and overall plant yield.
- Boosts crop's resistance to drought, salinity, and other stressful conditions that affect its yield.
- Improves flavours, firmness, and preservation of yield.

Dosage			2	
Formulations	Field Crops & Vegetables	Tree Crops	Grapes & Berries	Turf
Amino Acid Mixture 40% (Liquid)	200-400 ml per acre.	400-800 ml per acre.	200- 400 ml per acre	400-800 ml per acre.
Amino Acid Mixture 50% (Powder)	300-500 gm in 200 Itr water per acre during periods of rapid growth or nutritional stress.	300-500 gm in 200 Itr water per acre after the beginning of active growth.	200-400 gm in 200 Itr water per acre after active growth begins.	150-200 gm in 200 ltr water peracre.
Amino Acid Mixture 80% (Powder)	150-200 gm in 200 Itr water per acre during periods of rapid growth or nutritional stress.	150-200 gm in 200 Itr water per acre after the beginning of active growth.	100-200 gm in 200 Itr water per acre after active growth begins.	150-200 gm in 200 ltr water peracre.







AMINO ACID MINERAL CHELATES Rapid nutrient delivery for immediate impact

Amino Acid Mineral Chelates are a specific form of nutritive minerals. An amino acid chelated mineral is a mixture of elements (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 Chelated Minerals are thought to be more easily absorbable by plants than non-chelated forms.

AVAILABLE FORMULATIONS:

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







AMINOFERT GOLD

Rapid nitrogen provider

Aminofert Gold is a water-soluble powder produced enzymatically from non-GMO plants. The formulation contains at least 6.4% nitrogen and carbohydrates, as well as 40% amino acids. These amino acids are easily assimilable and enhance yield when sprayed at critical growth stages, e.g., tillering, branching, sprouting, and flowering stages. It also helps reduce the stress effects of drought and salinity by stimulating physiological and biochemical processes. Compatible with the agronomic standards of organic agriculture, apart from conventional inputs.

BENEFITS:

- In each 100 g, 40 g of amino-based nitrogen is readily available for plants.
- Apply the amino acid formulation at the beginning of the critical growth stages to enhance root and shoot growth.
- No phytotoxic effect on foliage or plant growth.
- It aids in cell division and produces natural growth hormones essentially needed by citrus and stone groups of fruit trees.
- Supplies organic nitrogen, peptides, and amino acids directly or indirectly helping nitrogen metabolism, protein synthesis, enhancing chlorophyll contents, photosynthesis, and carbohydrate synthesis.
- Highly improves the transportation of minerals, thwarting the accumulation of toxins during stress.
- Sourced from plants with no adverse impact on the environment.
- Its application does not require any special equipment or gear.

PHYSICAL PARAMETERS	Aminofert Gold
Appearance	Dark brown viscous liquid
Solubility	Soluble In Water
CHEMICAL PARAMETERS	Aminofert Gold
pH (2% soln at 25°C)	3.0 - 6.0
Total Amino Acid	NLT - 40.0%
Total Organic Matter	NLT - 50.0%
Essential Micronutrients	Positive

TARGET CROPS:

Suitable for most cash crops, including field crops, high-value nursery propogation, fruit orchards, and floriculture.

DOSAGE:

Field Crops and Vegetables: Apply 100-200 gm in 200 ltr of water per acre during the growth period or stress. The application may be repeated twice or as per need throughout the growing season.

Grapes and Berries: Make an application of 100-200 gm in 200 ltr of water per acre after sprouting and active growth begin. The application may be repeated at intervals of one week or more through the vegetative and reproductive periods.

Tree crops: Apply of 200-400 gm in 200 ltr of water per acre after the break of dormancy and beginning of active growth. The application may be repeated at 2-4 week intervals of through the growing season.

Turf: Make an application to 150-200 gm in 200 ltr of water per acre. The application may be repeated at interval of 15 days.









CROP TIGER

R&D-backed solutions for efficient farming

Crop Tiger is a uniquely designed formulation for improved crop productivity. This nutritive bio-solution is a thoughtfully crafted blend of Kelp Extract, Amino Acids, Potassium Oxide, and Multi-Vitamins. It is a versatile product; hence, it can be used on various crops to obtain assured positive results. It is a brown-coloured free-flowing powder that has shown proven results in increasing an incredible amount of crop yield. In addition, it has shown promising results in enhancing crops' immunity and strength. It also boosts the beneficial microflora of the soil.

BENEFITS:

- 1. Improves photosynthesis and enhances the overall plant growth rate.
- 2. Stimulates beneficial microbes around the plant roots and allows better absorption of water and minerals.
- 3. Provides the plants with the right balance of nutrition and builds strength to tolerate biotic & abiotic stress.
- 4. Delays plant aging (senescence) and extends the production phase.
- 5. Boosts plant immunity, helps them with stand fungal attacks, and prevents the spreading of the disease.

Сгор	Dosage
Field Crop (Paddy, Wheat, Barley)	1 Kg/Acre
Fruit Trees (Banana, Citrus)	2 gm/Plant
Vegetables Potato)	1 Kg/Acre
Orchards	500 gm/Acre
Pulses	1 Kg/Acre
Plantation Crop (Sugarcane)	2 Kg/Acre

DOSAGE & APPLICATION METHOD:

Method: Foliar Spray, Soil Drenching

PRODUCT COMPOSITION:

	PARAMETERS SPECIFICATION	
INGREDIENT	POWDER	
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 on Bananas, Sugarcane, and Rice at a reputed Agricultural University in India. In the trials, significant differences were observed between the treated and non-treated crops.









AMINOFERT MMF

A highly impactful micronutrient fertilizer

It is an amino acid-based, chelated consortium of micronutrients, composed of essential micronutrients such as zinc (Zn), iron (Fe), manganese (Mn), copper (Cu), boron (B), and many more. It acts as a powerful combination for improved crop health and yields. It is a non-harmful formulation suitable for organic farming.

BENEFITS:

- Enhances micronutrient availability.
- Contributes to better photosynthesis, nutrient uptake, and overall plant vigour.
- Enhance fruit quality, colour, and shelf life.
- Suitable for a wide range of crops such as wheat, vegetables, and leafy foods.
- The different treatments and times of application significantly increase the pulp peel ratio of fruits, the weight of pulp, and the size, weight, and colour of fruits and vegetables.

PRODUCT COMPOSITION:

Appearance	Light green color free flowing powder
Solubility (2% soln.)	Soluble in water
Zinc (Zn)	min. 3.0%
Iron (Fe)	min. 2.5%
Manganese (Mn)	min. 1.0%
Copper (Cu)	min. 1.0%
Boron (B)	min. 0.5%
Molybdenum (Mo)	min. 0.001%

DOSAGE & APPLICATION METHOD:

Foliar spray: 500 gm in 200 ltr of Water Drip: 1-1.5 Kg/acre

It is recommended to be used during the early growth stages of field crops, fruits, vegetables, and flowers to increase yield and promote strong flower and bud formation.

Two applications: 1. Budding stage 2. Flowering or fruiting stage







POTASSIUM HUMATE

Organic power for soil health

Potassium Humate is made from natural, high-grade Leonardite. It is a high-quality plant stimulant and soil conditioner with a high concentration of humic acid. It can be stored at ambient temperature and transported easily. Its solubility is excellent, and it could be formulated with different fertilizers and pesticides. It can be used for compound fertilizer production, irrigation, and foliar spray. It can be applied to landscapes and gardens, as well as agricultural and horticultural plants.

BENEFITS:

- Promotes fertilizer efficiency by improving soil structure.
- Increases and improves the water holding and cation exchange capacities.
- Prevents soil from heavy metallic ions and reduces pesticide residue contamination.
- Enhances the anti-hard water ability of soil.
- Stimulates healthy plant growth and seed germination.
- Promotes rapid root growth and development.
- Increases the nutrient uptake by plants through their leaves and roots.
- Improves the effectiveness of pesticides.
- Increases yield and improves the quality of plants.

AVAILABLE TECHNICAL

Potassium Humate 98% Powder / Flakes

DOSAGE AND APPLICATION METHOD:

Soil Application:

2-4 Kg/ha, drenching during seedling, vegetative, and fruit growth stages.

Foliar Application:

1-2 Kg/ha, 2-3 times during seedling vegetative and fruit growth stages.

AVAILABLE FORMULATIONS

Potassium Humate 20% / 40% L (Any customization available)

DOSAGE AND APPLICATION METHOD:

Product	Method	Timing	Dosage ml/Ltr
Potassium Humate 20%	Drip, Foliar Spray and Drenching	Spray Interval: Sowing and after every 20 days Spray number of times: 3 times	1 to 2 ml/Ltr.
Potassium Humate 40%	Drip, Foliar Spray and Drenching	Spray Interval: Sowing and after every 20 days Spray number of times: 3 times	0.5 to 1 ml/Ltr.

*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.







FULVIC ACID 50% / 80%

Boosts nutrient uptake

Fulvic Acid 50% is a premium fulvic acid solution with an impressive 50% fulvate composition. Derived from lowmolecular-weight Potassium Humic Acid, it serves as a potent plant growth stimulant, augmenting metabolic processes and facilitating nutrient assimilation. Its chelating properties enable the sequestration of essential nutrients, allowing for gradual absorption by plants. When used in conjunction with conventional fertilizers, Fulvic 50% synergistically enhances nutrient absorption. It is a soluble yellow-brown powder containing fulvic acid, a Bio- Stimulant with exceptional properties.

BENEFITS:

- Boosts nutrient uptake in plants.
- Stimulates plant growth and vitality.
- Acts as a chelating agent for gradual nutrient absorption.
- Enhances overall plant health and vigor.
- Increases buffering properties of soil.
- Help plants to cope up with environmental stress.

RECOMMENDED CROPS:

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

DOSAGE & APPLICATION METHOD:

Fulvic Acid 50% - 250 gm/Acre Fulvic Acid 80% - 150 gm - 200 gm/Acre Application method - Foliar spray, Soil drenching







SEAWEED EXTRACT LIQUID 20%/30%

The liquid boost from the brown alga

Seaweed liquid is derived from the fermentation of this seaweed by deploying a cold process, in which microbial organisms rupture the cell wall and release the bio stimulant substances into the broth. Seaweed liquid helps in optimizing 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 liquid activates the soil bacteria, especially 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:

- Boosts crop nutrition and ensures plants receive essential nutrients for optimal growth. This, in turn, leads to increased crop yield.
- Contributes to improved plant health and fosters robust root growth.
- Enhances fruit characteristics, including the number, shape, size, uniformity, colour, and taste.
- Impacts flower numbers.
- Acts as a substrate for beneficial microorganisms and contributes to a healthier soil environment.
- As a metabolic enhancer, stimulates crop growth and development.
- Improves crop quality, stress tolerance, and resistance to pests and diseases.

RECOMMENDED CROPS:

Suitable for all crops: Cotton, Cumin, Opium, Jute, Sugarcane, Rice, Wheat, Sorghum (Jowar), Bajra, Arecanut, Coconut, Coffee, Rubber, Tea, Mulberry, Cocoa, Red Gram, Green Gram, Black Gram, Horse Gram, Bengal Gram

DOSAGE & APPLICATION METHOD:

Foliar : 2 ml/L water in early stage of plant **Typical acre dose :** 250 ml/Acre

Available Technical

Seaweed Extract (Available as Flakes & Powder)







MYCORRHIZAE

(Rhizophagus irregularis / Glomus intraradices)

To grow strong roots and strong yields

Mycorrhizae are fungi that have a symbiotic relationship with the roots of 90% of plant species on earth. It is an environmentally friendly, phosphate-solubilizing, and nutrient-mobilizing fungal product containing Vesicular Arbuscular Mycorrhizal (VAM) and classified as Ecto- and Endo-Mycorrhizae by nature of association. It describes the mutually beneficial relationship between the plant and the beneficial root fungus. Its association with beneficial bacterial flora protects plants from disease-causing organisms. It also helps improve the soil's fertility and increases water-holding capacity.

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

SIGNIFICANCE:

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

Mycorrhizae GR (1200IP/gm)

Enhanced Performance with Root Development Base.

This is a microbial-based root stimulator along with organic nutrients. These nutrients boost the performance and effectiveness of mycorrhizae in soil. It is coated on bentonite granules with 10 spores/1200 IP/g.

Direction for use: 4 kg/acre by broadcasting method.

Concentrated Mycorrhizae (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.

Directions for use: 100-200 gm/acre for root, soil, and seed treatment. Seed treatment assures an increase in yield by 15%.







(Nitrogen, Phosphorus, and Potassium Microbial Consortia)

The microbial consortium

CFU minimum 1.5x10⁸ cells per milliliter (ml)

Bio-NPK is an effective Bio-Fertilizer that harnesses the power of beneficial microbes to unlock the full potential of soil and crops. It is a consortium of three microorganisms: Nitrogen-fixing bacteria (NFB), Phosphate-solubilizing bacteria (PSB), and Potassium-solubilizing bacteria (KSB). NFB converts atmospheric nitrogen into a plant-usable form; PSB breaks down unavailable phosphate reserves in the soil; and KSB liberates fixed and residual potash within the soil. It is an eco-friendly solution that supports sustainable agriculture.

BENEFITS:

- Fosters a thriving ecosystem within the soil.
- Improves soil fertility.
- Ensure crops have a balanced supply of essential elements.
- Ensure essential elements are readily available.
- Enhances nitrogen utilization.
- Boosts germination and growth and vogour of seedling.
- Helps plants cope with dry conditions by promoting water use efficiency.

TARGET CROPS :

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

DOSAGE AND APPLICATION METHOD:

Seed treatment: 10-15 ml/Kg of seed - Mix them using a small quantity of water, air dry under shade before sowing.

Soil application: 1 ltr along with 50 Kg well-decomposed FYM/ Organic manure/ Vermicomposting per acre – Store the mixture under shade for one week before broadcasting in the field

Through irrigation channel: 1 ltr along with 500 g molasses per 100 ltr of water per acre – Mix well and store the mixture for three days with 2-3 times stirring daily, before applying in the field.

Drip irrigation: 1 ltr per 100 ltr of water per acre







BIO-FERTILIZERS

Harnesses the power of beneficial bacteria to fortify crops

Bio-Fertilizers contain living microbial organisms that grow in the plant's rhizosphere (around the root zone) and help in plant growth by solubilizing and mobilizing nutrients to rootlets for absorption. The Bio-Fertilizers include various symbiotic or free-living microorganisms (e.g., bacteria and fungi) that colonize the rhizosphere, and the root promotes their growth by increasing the availability of primary nutrients to the host plant.

CFU : 5X10⁷ min. CFU/gm **Mode of Application:** Seed Treatment, Soil Drenching, Soil Application, and Drip irrigation.

AVAILABLE BIO-FERTILIZERS:

1. NITROGEN FIXING BACTERIA (NFB)

Nitrogen Fixing Bacteria are either symbionts or free-living organisms. They transform non-reactive atmospheric N² into its more reactive compounds (nitrates, nitrites, or ammonia) that are absorbed by plants for their growth through nitrogen assimilation. Using symbionts in crop rotation ensures and allows nitrogen fixation in soil for succeeding crops.

2. PHOSPHORUS SOLUBILIZING BACTERIA (PSB)

Phosphate Solubilizing Bacteria belong to the group of organisms composed of actinobacteria, bacteria, fungi, arbuscular mycorrhizae, and cyanobacteria capable of hydrolyzing organic and inorganic phosphorus into soluble forms, thus making it bioavailable to plants and helping in the production of plant growth hormones such as IAA and GA. The application of PSB reduces the use of chemical phosphatic fertilizers.

3. POTASSIUM SOLUBILIZING BACTERIA (KSB)

Potassium Solubilizing Bacteria solubilize fixed forms of potassium in plant-available potassium by various mechanisms, including acidolysis, chelation, exchange reactions, complex lysis, and the production of organic acids. Potassium Solubilizing Bacteria (KSB) are growth-yield promoters and are ready to enhance plant growth and yield.

4. ZINC SOLUBILIZING BACTERIA (ZSB)

Zinc Solubilizing Bacteria act as natural bio-fortifiers that can solubilize the unavailable form of zinc by secreting organic acids, siderophores, and other chelating compounds. Zinc is a cofactor for many enzymes that are involved in biological reactions such as photosynthesis and respiration. Furthermore, zinc is required for carbohydrate metabolism, nutrient uptake and transport, seed production and seedling vigour, fruit and flower formation, and overall plant growth and development.







SOLUBLE SILICA WITH POTASSIUM

The power duo for healthy growth

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.

	K₂O	SiO₂
Powder	28 - 30%	58 - 60%
Liquid	12-15%	26-28%

BENEFITS:

- Applicable in any season or when the plant requires the potassium ion.
- Compatible with practices of Integrated Pest Management (IPM).
- Safe for beneficial arthropods and plants.
- Protect the plant by creating a protective barrier and strengthening 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.
- Reduces lodging.
- Enhances reproduction by improving pollination and increasing pollen fertility.

EFFICACY :

The application of Soluble Silica with Potassium is effective in potatoes, rice, and sugarcane. When it is applied every week during the crop cycle, it will result in an impressive yield increase of 20-25%.

Silica controls the diseases in Rice, Soya bean, and Sorghum by reducing the presence of brown spots, and it also manages the rust disease problem in plants.

TARGET CROPS :

Oilseed Crops, Legumes, Grain Crops, Root Crops, Cucurbits, Cole Crops, Leafy Vegetables, Woody and Herbaceous Ornamentals, Deciduous Fruits, Tropical and Subtropical Fruits, and many other crops.

RECOMMENDED DOSAGES :

For Powder : Apply 300-400 gm in 200 ltr. of water per acre. **For Liquid :** Apply 800-1200 ml in 200 ltr. of water per acre.







SOLUBLE SULPHUR WITH CALCIUM

Enhances fruit quality and protects from stress

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 with profuse flowering and healthy fruits. 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.
- A part of the cell wall, and hence related to cell division and the cell elongation process.

Sulphur -

- Assists plants in the formation of proteins, which are essential components of many distinct characteristics.
- Improve the greenish colour and increase 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.



TARGET CROPS :)

Oilseed Crops, Legumes, Grain Crops, Root Crops, Cucurbits, Cole Crops, Leafy Vegetables. Woody and Herbaceous Ornamentals, Deciduous Fruits, Tropical and Subtropical Fruits, and many other crops.

RECOMMENDED DOSAGES :

Foliar Application: Mix 200-250 ml in 200-250 Liters of water and spray. **Soil Application:** Mix 5 ltr with 400-500 ltr of water per acre.

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







POTASSIUM THIOSULPHATE

Stress-proof crops with potent potassium

Potassium Thiosulphate is a clear liquid solution with a neutral to basic pH. It contains 25% potash (potassium) and 17% sulfur, 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 FOLIAR APPLICATION:

Crop(s)	Application time	Dosage (Ltr/Acre)
Cotton	At the blooming stage	3.5 -4.5
Potatoes	During tuber initiation stage, tuber development and tuber bulking stage	1.8-3.5
Small Grains	Tillering and early boot stage	1.8-7.5
Canola	Bolting stage (Stem elongation)	1.8-7.5
Alfalfa	At crown green up or on regrowth just after cutting	3.7-7.5
Rice	At panicle initiation stage	3.7-5.6
Peas and Lentils	During late bud to 10% bloom	1.8-3.7
Tomatoes	At fruit set stage	1.8-3.7
Soybeans	Flowering stage	3.7-5.6
Wheat	At tillering to early boot stage.	1.8-7.5

DRIP IRRIGATION AND FLOOD OR 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









LIQUID MICRONUTRIENT FERTILIZER

LIQUID BORON 10% w/w

(Boron Ethanolamine)

Prevents deficiencies for sturdy stems and healthy blooms

Boron 10% is a liquid micronutrient fertilizer for crops that have a requirement for additional boron. Boron 10% 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.

Effects of Boron deficiency in plants and trees can be easily observed with below symptoms:

- + Leaves become small, thick and brittle
- + Growing points start dying

+ Thickening of stems, shortened internodes, reduced flowering, seed setting & seed formation

BENEFITS:

- Boron is an important micronutrient which is critical for the growth and health of all crops.
- Helps in overcoming the second most widespread micronutrient deficiency problem after zinc.
- 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.

FOLIAR APPLICATION:

- I) 20 days after planting and then
- ii) At flower initiation stage

	CROPS	FOLIAR (per Itr water)
Vegetable Crops	Beets, Carrots, Cucumbers	1-2 ml
	Broccoli, Cabbage, Cauliflower, Melons	1-3 ml
	Tomatoes, Potatoes, Peas, Lentils, Beans, Peppers	1-2 ml
Field Crops	Sugar Beets, Potato, Carrots	2-4 ml
	Barley, Wheat, Corn, Soybeans, Sunflowers	1-2 ml
Fruit Crops Apples, Grapes, Pears, Cherries, Peaches, Guava		1-2.5 ml
Horticulture Field		1-2 ml

DRIP IRRIGATION:

250-300 ml in 1 Acre

*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 CALCIUM 11% SC

Builds strong cell walls

Calcium 11% SC is a highly concentrated micronutrient liquid that allows a higher calcium input to be available to the plant. Liquid Calcium 11% 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.

DOSAGE AND TARGET CROPS:

Crops	Timing	ml/ltr water
Broccoli	4-6 application starting shortly before head formation	3.5 - 5
Brussels Sprouts	Multiple applications	4 - 8.5
Cabbage, Cauliflower, Lettuce, Endive	4-6 applications starting immediately prior to head formation	3.5 - 5
Carrots	Prior to strawing	3
Celery, Chicory	Weekly applications starting before blackheart symptoms arise	3.5 - 4
Potatoes	Multiple applications from the early hook stage	2.5 - 5

APPLICATION METHOD

Foliar Application:

I) 20 days after planting, and then

ii) At the flower initiation stage

Drip Irrigation Application:

250-300ml in 1 Acre

The Irrigation tank should be filled with half of the required amount of water. Measure the required amount of Calcium 11% and stir properly and then add the remaining water to form a uniform mixture.



LIQUID MICRONUTRIENT FERTILIZER

FCO



ZINC OXIDE 39.5% SC

The best solution to prevent zinc deficiency

BENEFITS:

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

SPECIFICATIONS:			
Zinc (Zn)	39.5%		
Arsenic (As)	0.001%		
Lead (Pb)	0.003%		
Cadmium (Cd)	0.001%		
Specific Gravity	1.70% Min		

DOSAGE:

Cereals	Citrus	Cotton
Cereals: 1.0 - 1.5 ml/l water 30-35 days	Citrus: Spray 1 - 1.5 ml/litre water firstly	Cotton: 0.3 to 1 L/ha 3 to 4 weeks after
after sowing and repeat at 40-45 days	after bahaar treatment stage and	emergence. Repeat as required with
after sowing. Water rate: 160 - 200	secondly at fruit setting stage. Water	10 to 14 days between treatments.
litres per acre.	rate: 200 - 400 litres per acre.	Water rate: 20 - 60 litres per acre.

Maize	Potatoes	Rice
Maize: 1.0 - 1.5 ml per litre water at 30 -	Potatoes: Spray 1 to 1.5 ml/litre water	Rice: 1.0 - 1.5 ml/litre water at 30 - 35
35 days after sowing. Water rate: 160 -	30 - 35 days after planting. Water rate:	DAT and repeat at 45 - 50 DAT. Water
200 litres per acre.	160 - 200 l/ha.	rate: 160 - 200 litres per acre.

Sugarcane	Wheat	Apple
Sugar Cane: Spray 1 - 1.5 ml/litre water firstly 45 days after planting stage and secondly 90 days after planting stage. Water rate: 150 - 200 l/acre.	Wheat: Spray 1 - 1.5 ml/litre water firstly 30 - 35 days after sowing and secondly 45 - 50 days after sowing. Water rate: 150 - 200 l/acre.	Apple: First application at petal fall stage@1ml/litre water (Foliar). Second application post harvest @ 1 ml/litre water (Foliar). Maximum water rate: 800 l/acre.

Pack Size: 250 ml / 500 ml / 1 Ltr.

*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 MICRONUTRIENT FERTILIZER

ZINC GLYCINATE

The organic solution for healthy and strong plants

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

STANDARD SPECIFICATION:

Product Parameters	Specification
Zinc (as Zn) % w/w	6.80%
pH (1% distilled water)	4.0 - 5.5
Specific Gravity gm/ml	1.21 - 1.28

TARGET CROPS:

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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 - 2.0ml / Itre of water 300-400 ml/acre	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 200 litres of water per acre. In long duration crops, user need to go for > 2 sprays at an interval of 20 days, depending on the need.





FCO

CALCIUM GLYCINATE

Liquid The organic solution, designed to boost plants' health

Calcium Chelate is a glycine-chelated liquid formulation that contains 6.0% calcium. Calcium Chelate 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.
- Provides calcium for nutrient uptake.
- Provides calcium for early season growth.
- Provides calcium for healthy plant tissue.
- Provides calcium for nutritious forages.
- Provides calcium for higher yields and productivity.

STANDARD SPECIFICATION:

Product Parameters	Specification
Calcium (as Ca) % w/w	6.0%
pH (1% distilled water)	5.5 - 7.0
Specific Gravity gm/ml	1.15 – 1.22 gm/ml

TARGET CROPS:

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

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





FCO

BORON GLYCINATE

Liquid

The organic solution for balanced boron nutrition

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.
- Helps in new cell formation and root development.
- Helps in the formation of proteins and amino acids.
- Increases 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 SPECIFICATION:

Product Parameters	Specification
Boron (as B) % w/w	5.0%
pH (1% distilled water)	8.0 - 9.0
Specific Gravity gm/ml	1.10 – 1.23 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 ml/Lit of water		First spray at flowering stage	
	Spray only	Second spray at fruit development stage	









TRICHODERMA VIRIDE 1.5% WP

Shields crops from soilborne diseases

CFU Count: Min 2 x 10⁶ CFU/gm

Trichoderma viride is a potential fungal biocontrol agent serving as an antagonistic fungus that can suppress more than 60 species of pathogen-causing diseases, viz., Root rot, wilts, brown rot, damping off, charcoal rot, and other soil-borne diseases in crops, apart from acting as PGPR.

BENEFITS:

- Eco-friendly Bio-fungicide; do not cause any harm to the environment or beneficials, apart from being safe to pollinators and friendly to soil microecology.
- Can be used to protect nursery crops and fields from a variety of soil-borne or seed-borne pathogens through the action of mycoparasitism and antibiosis.
- It induces systemic disease resistance, strengthening their in-built defence mechanisms.
- Promotes plant growth and vigour while also increasing plant resistance to drought and disease.
- Decomposes raw organic farm waste, solubilizes soil phosphorus, reclaims contaminated soils, promotes plant growth, and safeguards the soil eco-system.
- Compatible with norms of "organic cultivation," natural farming organic manures, and Bio-Fertilizers.

TARGET CROPS:

Paddy, Maize, Rice, Pulses, Vegetable Crops, Oil Seeds, Cotton, Ginger, Turmeric, Cardamom, Black Pepper, Tea, Coffee, Fruits, and cut flower crops, etc.

TARGET PATHOGENS:

Highly effective in controlling Pythium spp., Phytophthora spp., Rhizoctonia spp., Fusarium spp., Sclerotium rolfsii, Sclerotinia spp., Macrophomina, and Cephalosporium spp.

DOSAGE AND APPLICATION METHOD:

Seed Treatment:

Mix 10 g of formulation in 50 ml of water and apply as seed treatment to 1kg of seed. Shade-dry the seeds for 20 to 30 minutes before sowing.

Nursery Bed Treatment:

Mix 50 g of formulation in 10 ltr. of water and drench a nursery bed of 1 sq. meter at the time of seeding.

Seedling Treatment:

Dissolve 100 g of formulation in 10 ltr. of water and dip the roots of seedlings for 30–45 minutes 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 ltr of water.







TRICHODERMA HARZIANUM 1.0% WP

Start strong with enhanced seed health

CFU Count: Min 2 x 10⁶ CFU/gm

Trichoderma harzianum is a potential fungal biocontrol agent serving as an antagonistic fungus that can suppress more than 60 species of pathogens causing diseases, viz., Root rot, wilts, brown rot, damping off, charcoal rot, and other soil-borne diseases in crops, apart from acting as PGPR.

BENEFITS:

- Eco-friendly Bio-fungicide; do not cause any harm to the environment or beneficials, apart from being safe to pollinators and friendly to soil microecology.
- Can be used to protect nursery crops and fields from a variety of soil-borne or seed-borne pathogens through the action of mycoparasitism and antibiosis.
- It induces systemic disease resistance, strengthening their in-built defence mechanisms.
- Promotes plant growth and vigour while also increasing plant resistance to drought and disease.
- Decomposes raw organic farm waste, solubilizes soil phosphorus, reclaims contaminated soils, promotes plant growth through its bio-stimulant by-products, and safeguards the soil ecosystem.
- Compatible with norms of "organic cultivation," natural farming organic manures, and Bio-Fertilizers.

TARGET CROPS:

Paddy, Maize, Rice, Pulses, Vegetable Crops, Oil Seeds, Cotton, Ginger, Turmeric, Cardamom, Black Pepper, Tea, Coffee, Fruits, and cut flower crops, etc.

TARGET PATHOGENS:

Highly effective in controlling Pythium spp., Phytophthora spp., Rhizoctonia spp., Fusarium spp., Sclerotium rolfsii, Sclerotinia spp., Macrophomina, Cephalosporium spp., and Meloidogyne spp. (Root Knot Nematodes).

DOSAGE AND APPLICATION METHOD:

Seed Treatment:

Mix 10 g of formulation in 50 ml of water and apply it as seed treatment to 1kg of seed. Shade-dry the seeds for 20 to 30 minutes before sowing.

Nursery Bed Treatment:

Mix 50 g of formulation in 10 ltr of water (liquid formulation 5 ml/ltr of water) and drench a nursery bed of 1 sq. meter at the time of seeding.

Seedling Treatment:

Dissolve 100 g of formulation in 10 ltr. of water and dip the roots of seedlings for 30-45 minutes before transplanting.

Soil Application:

Mix 5 kg with 100 kg FYM and broadcast in a one-hectare field before sowing.

Foliar Application:

Mix 20 gm per ltr of water for foliar spray.









Promotes a thriving rhizosphere for healthier plants

CFU Count: Min 1 x 10⁸ CFU/gm

Pseudomonas fluorescens 1.0% WP is a fluorescent Pseudomonas belonging to Plant Growth Promoting Rhizobacteria (PGPR), playing a major role in plant growth promotion, induced systemic resistance, biological control of pathogens, and reducing the severity of various diseases. The efficacy of Pseudomonas antagonists in controlling fungal diseases is often better when used alone and sometimes in combination with compatible fungicides. *P. fluorescens* is a potential Bio-Pesticide for augmentative biological control of many diseases of agriculture and horticultural importance.

BENEFITS:

- Protect crops from several soil-borne and seed-borne plant pathogens.
- Nature-friendly and active against specific plant pathogens and pathogenic nematodes present in soil.
- Induces resistance in plants against pathogens and is helpful in export-oriented produce by serving as an alternative to chemical fungicides.
- Pseudomonas promotes plant growth by suppressing pathogenic microorganisms, synthesizing growth-stimulating plant hormones, PGR activity, and promoting increased plant disease resistance.
- It also protects plants during different stress conditions like heavy metal pollution, osmosis, temperature, oxidative stress, etc.
- It is frequently used as an important component of integrated pest management and a key component for managing organically grown fields as well as glasshouse crops.

TARGET CROPS:

Vegetable Crops, Groundnut, Soyabean, Cotton, Paddy, Maize, Rice, Pulses, Sugarcane, Ornamental Crops, Tea, Turmeric, Cardamom, Black Pepper, and Fruit Crops.

TARGET PATHOGENS:

Highly effective against various foliar diseases as well as soil-borne diseases such as Fusarium spp., Verticillium spp., Phytophthora spp., Pythium spp., Rhizoctonia spp., Botrytis spp., Sclerotium spp., Sclerotinia spp., Xanthomonas spp., etc.

DOSAGE AND APPLICATION METHOD:

Seed Treatment: Mix 10 g of formulation in 40 ml of water and apply it as seed treatment to 1kg of seed. Shade-dry the seeds for 20 to 30 minutes before sowing.

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

Seedling Treatment: Dissolve 100 g of formulation in 10 ltr of water and dip the roots of seedlings for 30-45 minutes before transplanting.

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

Foliar Application: Spray 4.0 g/lt to protect against blast and blight diseases of paddy crops after 40-45 days of transplanting.







BACILLUS SUBTILIS 1.5% A.S.

Controls pathogens with a natural protector

CFU count: 1 x 10⁸ CFU/ml

Bacillus subtilis is a Bio-Fungicide and plant growth-promoting rhizobacteria (PGPR), which colonizes 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 biocontrol potential (promote plant growth while suppressing pathogen growth). It helps plants with secondary metabolites production, regulation of intracellular phytohormone activity, and increased stress tolerance.

BENEFITS:

- Competitive effects of *Bacillus subtilis* allow it to multiply and colonize massively and rapidly, which helps in achieving antibacterial and disease-preventing effects.
- Bacillus subtilis not only directly inhibits plant pathogenic bacteria but also enhances plant disease resistance by inducing the plant's disease resistance.
- Antibacterial and bacteriostatic activities of *Bacillus subtilis* allow it to produce substances such as subtilin, organic acids, and antibacterial proteins, which inhibit the growth and reproduction of pathogenic bacteria, destroy the bacterial structure, and kill pathogens.
- It enhances seed germination and plant growth by enhancing the synthesis of photosynthetic pigments, apart from boosting plant growth by altering cytokinin and ethylene homeostasis.
- *Bacillus subtilis* enhances stress tolerance and disease resistance in their plant hosts by inducing the expression of stress-response genes, phytohormones, and stress-related metabolites.
- It is frequently used as an important component of integrated pest management and a key component for managing organically grown fields as well as glasshouse crops.

MODE OF ACTION

Bacillus subtilis is a plant growth-promoting rhizobacterium shown to synthesize antifungal peptides. It persists in the environment and protects the crops effectively from fungal and bacterial pathogens in the plant system.

TARGET CROPS:

Grapes, Berries, Orchid, Strawberry, Banana, Capsicum, Groundnut, Cucumbers, Soyabean, Roses, and other cut flowers.

DOSAGE, MANNER AND TIME OF APPLICATION:

Bacillus subtilis 1.5% AS is applied as foliar and soil drenching @2ml/litre of water.







1.15% WP

Promotes natural pest control for healthier plants

CFU: NLT1x10⁸ CFU/gm

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 and has been recorded in more than 500 host species. Spores coming into contact germinate quickly and grow inside the insect via the spiracles in the cuticle, producing toxins, draining all of the nutrients, and eventually killing the insect. The activity of this fungus is favored 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.

BENEFITS:

- Naturally occurring entomopathogenic fungi and spores do not need to be ingested by the host; mere contact with a host is enough to kill.
- Effectively controls most of the economically important crop pests and improves crop health, which increases productivity.
- Its formulations are compatible with agrochemicals and other natural enemies and pollinators.
- A major advantage of using it is that it can be used up until the day of harvest, as the residue is not harmful to consumers.
- It is frequently used as an important component of integrated pest management and a key component for managing organically grown fields as well as glasshouse crops.

TARGET CROPS:

Rice, Cereals, Pulses, Cotton, Oil seeds, Cabbage, Cauliflower, Fruits, and Plantation crops, especially coffee.

COMMON NAME OF PEST:

It is an entomopathogenic fungus that causes white muscardine disease in a range of lepidopteran insects, as well as whiteflies, aphids, thrips, grasshoppers, and certain types of beetles.

METHOD OF APPLICATION AND DOSAGE:

Soil application: For soil insect pests like White Grubs, Termites, etc. Mix 2.0 kg of product with 50 kg of well-decomposed FYM/compost/field soil and broadcast in the field of 1 acre at the time of field preparation or in a standing crop.

Foliar spray: Dissolve 2.5 kg of the product in 750-850 ltr. of water and spray the solution twice at an interval of 15 days, preferably in the early morning or evening hours.







NEEM EXTRACT AZADIRACHTIN

Organic pest control for long-lasting protection

Azadirachtin is a primary insecticidal compound found in neem oil. Azadirachtin (technical) is used as the basic raw material in the formulations of Neem-based bio-pesticides, herbal preparations, and plant care products. Azadirachtin based pesticides are one of the most effective broad spectrum bio-pesticides. Azadirachtin, together with other constituents of Neem seeds, exhibits insect repellant, anti-feedant, 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:

- Produces 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.

Fromulations	Crop	Common Name of Pest	Dosage (per ha)	Dilution in Water (L)
Azadirachtin 1% (10 000 DDM)	Tomato	Fruit borer (Helicoverpa armigera)	1 - 1.5 L	500
	Brinjal	Fruit and Shoot borer (Leucinodes orbonalis)	1 - 1.5 L	500
	Cotton	White Fly, Leaf hoppers, Heliothis, Aphids	375 ml	750
	Теа	Pink mite, Red Spider mites, Caterpillar, Thrips	200 ml	400
	Rice	Brown Plant Hopper, Leaf folder, Stem Borer	200 ml	400
Azadirachtin 5% (50,000 PPM)	Tomato	Fruit borer, White fly, Aphids,	200 ml	400
	Tobacco	Aphids, Tobacco, Caterpillar	200 ml	400
	Cauliflower	Diamond back moth, Aphids, Spodoptera	200 ml	400
	Bhindi	Aphid, Pod Borer, Leafhopper, Whitefly,	200 ml	400
Azadirachtin () (ZOO DDM) Min	Cotton	Aphids, Helicoverpa armigera (Bollworm)	2.5 L	500
Azadirachtin 0.03% (SOO PPM) Min.	Rice	Leaf folder, Stem borer	2 L	1000
Azadirachtin 0.03% (300 PPM) w/w min. Botanical fungicide	Bhindi	Powdery mildew	2-2.5 L	500
Azadirachtin 0.3% w/w min. (3000 PPM)	Cotton	American bollworm	4 L	1000
AZADIRACHTIN 0.15% EC (1500 ppm) min	Cotton	Bollworm, White fly	2.5-5 L	500-1000
	Rice	Thrips, Stem borer, Leaf folder, Brown plant hopper	1.5-2.5 L	500







PACLOBUTRAZOL 23% SC & 40% SC

Controls plant growth for optimal yields

The growth hormones in plants synthesize and influence the development process. On the other hand, some plant growth regulators are antagonistic to the hormones that support shoot elongation. Such retardants reduce the shoot length and channel the nutrients towards fruit and seed production.

Paclobutrazol is one of the most extensively used plant growth regulators, especially in mango fruit. Primarily, the role of paclobutrazol is to inhibit gibberellin synthesis and promote flowering and fruiting. Thus, the vegetative growth reduces, the assimilates are transferred to reproductive organs, and the yield potential increases.

BENEFITS:

- Controls the foliage growth.
- Increases flowering results in increased yield.
- Early flowering with early and enhanced fruit maturity.
- Development of better fruit colour and size.

Paclobutrazol, the Plant Growth Regulator assists your mango crops to achieve full blossom potential by creating a balance between foliar and fruit growth.

DOSAGE IN MANGO TREE DRENCH METHOD:

CROR	PACLOBUTRAZOLE 23%		PACLOBUTRAZOLE 40%	
CROP	AGE OF PLANT	DOSAGE	Сгор	DOSAGE
Mango tree	Age 7-15 years	15 ml		30-50 ml
	Age 16-25 years	20 ml	Pigeon Pea	
	Age more than 25 years	25-40 ml		

APPLICATION:

Time: After the harvest of fruits, Paclobutrazol must be applied, ideally.

METHOD:

Paclobutrazol is much more effective when used with the Collar Drench method. With the recommended quantity of Paclobutrazol and 0.5 - 2 ltr of water per tree, apply this to the soil or trunk crack line around the base of the trunk.

Or, apply Paclobutrazol as Soil Drench. Dilute the recommended quantity of Paclobutrazol in 10 liters of clean water and apply in a furrow 5 cm deep about 2 to 3 feet away from the trunk. Fill up with soil after application.

Or, by Foliar Spray Application, the new flowering can be treated with 1000 - 2000 ppm after the sunset.









GIBBERELLIC ACID 40% WSG /0.001% L / 0.186% SP

To break dormancy and boost fruit set

Gibberellic Acid is a hormone extracted from plants and fungi that is widely used as a plant growth regulator. Gibberellic Acid is a tetracyclic di-terpenoid hormone that regulates plant growth. Even though it is present in plants, it is produced at a very low rate. Plants with growth hormone deficiency have a slow or flat rate of growth.

BENEFITS:

- Overcoming Dormancy: Pre-sowing treatment of seeds or tubers with Gibberellic Acid is effective in breaking dormancy and causing rapid seed germination.
- Premature Flowering: Flowering may be the induced by direct application of Gibberellic Acid to young plants. This action is not sustained, and treatment may have to be repeated.
- Increased Fruit Set: When there is difficulty with fruit set, Gibberellic Acid may be effective. The resulting fruit may be partially or entirely seedless.
- Hybridizing: Pollination within self-incompatible clones and between closely related species may sometimes be forced by the application of Gibberellic Acid and cytokinin to the blooms at the time of hand pollination.
- Increased Growth: Gibberellic Acid applied near the terminal buds of trees may increase the rate of growth by stimulating more or less constant growth during the season.
- Frost Protection: Spraying fruit trees at full-blossom or when the blossoms begin to wither can offset the detrimental effects of frost.

AVAILABLE FORMULATIONS AND DOSAGE

FORMULATION	TARGET CROPS	DOSAGE (gm or ml/500 ltr. water)
GIBBERELLIC ACID	Grapes	50 gm
40% WSG	Rice	50-62.5 gm
GIBBERELLIC ACID 0.186% SP	Cotton	53.25-71.00 gm
	Brinjal, Okra, Muberry	450 ml
	Banana	270 ml
SIDDERELLIC ACID 0.001% SL	Grapes, Cotton, Sugarcane (Planted Crop) Cabbage / Cauliflower, Onion, Ground nut	180 ml

APPLICATION:

Versatile product can be applied by foliar spray and drench application as per the requirement.





TRIACONTANOL (0.05% EC, 0.05% GR & 0.1% EW)

Enhances photosynthesis and maximizes harvest potential

Triacontanol is a natural plant growth regulator found in epicuticular waxes. It is a saturated long-chain alcohol that is known to have 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 plants to a large extent. In fact, Triacontanol increases free amino acids, reduces sugars, and produces soluble protein in the plant body. Triacontanol increases dry matter production, which leads to an inter-relationship between primary and secondary metabolism, and thus increased biosynthesis. It is an incredibly versatile phytohormone that 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 of the plant cell mitochondria.
- Helps in opening the stomata.

AVAILABLE FORMULATIONS AND DOSAGE:

Formulations	Crops	Dosage	Dilution in Water (Ltrs.)	Waiting Period between last spray to harvest (in days)
Triacontanol	Potato	0.5 ltr.	500-600	-
0.05% EC Min.	Cotton,Tomato, Rice, Chillies, Groundnut	0.25 ltr.	400-500	-
Triacontanol 0.05% GR Min.	Cotton,Tomato, Rice, Chillies, Groundnut	25 Kg		-
Triacontanol	Potato	0.5 ltr.	500-600	1st spray-30 days after planting, 2nd spray-45 days after planting
0.1% EW MIN.	Cotton,Tomato, Rice, Chillies, Groundnut	0.25 ltr.	400-500	1st spray-45 days after planting, 2nd spray-65 days after planting 3rd spray-85 days after planting

APPLICATION:

Versatile product can be applied by foliar spray and drench application as per the requirement.







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

Prevents the bud drop and enhances yield

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-4pyridyl)-N'-phenyl urea), 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.
- Seeded grapes for the fresh market.
- Increased fruit set and/or berry size, and may affect the drying ratio.

DOSAGE & APPLICATION METHOD:

CROP	DOSES (g a.i/acre)	EFFECT
Blue berries	2-3	Berry size increased
Rabbiteye blue berries	2	Berry size and berry set increased
Bush berries (Black Currant, Red Currant, Elderberry, Gooseberry and Lingonberry)	2	Berry size increased
Seedless grapes	3-6	Increased berry size, improved cluster weight & total yield. Improved fruit quality in cold storage and delay in grape maturation.
Seeded grape for fresh market	2-10	Increased berry size, improved cluster weight & total yield.
Seeded grapes for wine	2-10	Increased berry set, or berry size
Seeded grapes for wine	2-10	Increased berry set, or berry size
Grapes for raisin	2-10	Increased fruit set and/or berry size, and may affect drying ratio.
Kiwi fruit	2-4	Increased fruit size
Pears	2-3	Increased fruit size resulting in increased yield.
Cherries (Sweet)	2-3	Increased fruit diameter
Figs	2-3	Maximize the number of figs
Pistachios	2-3	Increased nut weight
Plum/Prune	1.5-2.0	Increased fruit set

*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 39% SL

Accelerates ripening for faster harvests

A versatile plant growth regulator, Ethephon 39% SL enhances fruit colour and accelerates the uniform ripening of fruits such as tomatoes, mangoes, and pineapples. It can be used for specific purposes such as breaking alternate bearings in mango trees and defoliating pomegranates.

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.

ADVANTAGES:

- 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.

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 For Uniform Ripening of (Arabica & Robusta) 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	N/A	March, August, September, November (four applications) brushing once in two months on the tapping cut of the bark
Pomegranate	N/A	One spray around one month before Mrig bahar (June-July), Hast bahar (October-November) or Ambe bahar (December-January).

CROP WISE APPLICATION TIME:

CROP DOSAGE:

Сгор	Dosage (ml)	Dilution in water (Ltr)	
Mango (For flower induction in juvenile mango)	3846-5128	1500-2000	
Mango (Post harvest treatment)	1923-2564	1500-2000	
Mango (For breaking alternate bearing tendencies)	770-1025	1500-2000	
Pineapple	385-513	1500-2000	
Coffee (Arabica)	738-985	1500-2000	
Coffee (Robusta)	215-287	1500-2000	
Pomegranate	1000-1250	500	





ADJUVANT / SPREADER

SIL-ONE

SILICON ADJUVANT & SPREADER

Improves coverage for enhanced uptake

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 tankmix adjuvant for foliar-applied chemicals.

APPLICATION:

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

Uses 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 rain fastness, i.e., herbicides are not washed off by rainfall because they have penetrated into the plant surface.

BENEFITS:

- 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.

PRODUCT PARAMETERS	SPECIFICATION		
Appearance	Clear amber color fluid		
Viscosity at 25°C	40 CST		
Flash Point	>101°C		
Solid Content %	100%		
рН	7.0		
Surface Tension (0.1%mN/m)	21.5		
Density	1.02		

USE:

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

HOW TO MIX SIL-ONE ADJUVANT IN A TANK:

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





OUR ESTEEMED CLIENTS





























Corporate Office :

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903-909, 9th Floor, Big Jo's Tower, Netaji Subhash Place, Delhi-110034, India **Manufacturing Facility :** G1- 635, 636, RIICO Industrial Area, Chopanki, Bhiwadi, Rajasthan - 301019, India