Biofactor – Comprehensive Bio-Fertilizer Information

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1 Introduction

Biofactor stands as a leading innovator in the bio-fertilizer industry. We are committed to transforming agricultural practices through the application of cutting-edge biotechnologies. Recognizing the critical role of healthy soil in sustaining a robust food system, Biofactor empowers farmers with scientifically-driven bio-fertilizer solutions. These solutions enrich soil health, enhance crop yields, and safeguard the well-being of future generations.

A Decade of Groundbreaking Innovation: For over a decade, Biofactor has been at the forefront of agricultural innovation. We dedicate ourselves to understanding the evolving challenges faced by modern farming. Our focus lies in developing bio-fertilizers and organic inputs that address the critical issues of declining soil fertility and the impact of chemical fertilizers on human health. Our meticulous formulations, created using revolutionary technologies, ensure the efficient delivery of essential macro and micronutrients to crops.

Pioneering Research and Development: Biofactor maintains a state-of-the-art R&D laboratory, recognized by the Department of Scientific and Industrial Research (DSIR), Government of India. Our team of highly qualified scientists is dedicated to pioneering advancements in bio-fertilizer technology. We hold eight patents and have developed 35 proprietary microbial strains, all meticulously selected for their effectiveness in promoting soil health and crop growth.

Global Collaboration, Local Impact: Biofactor fosters a collaborative spirit, working closely with leading agricultural universities and research institutions worldwide. This global perspective allows us to develop solutions tailored to the specific needs of diverse crops and regional agricultural environments. We are proud to be a member of esteemed organizations such as the Fertilizer Association of India (FAI) and the Indian Council of Agricultural Research - Central Institute for Research on Cotton Textiles (ICAR-CIRCOT). These affiliations further strengthen our commitment to supporting the agricultural community.

A Legacy of Excellence in Sustainable Solutions: Biofactor has established itself as a leader in the global agricultural sector through continuous innovation and unwavering dedication to sustainability. Our groundbreaking MAMSP technology revolutionizes nutrient delivery to plants by converting them into micron-sized particles, enabling optimal nutrient uptake and promoting exceptional growth and yield.

Building a Sustainable Future, Together: As Biofac Inputs expands its global reach, we remain resolute in our commitment to promoting sustainable practices in agriculture, poultry, and livestock industries. We believe in empowering farmers with innovative solutions that enhance soil health, improve crop quality, and ensure the long-term viability of our agricultural ecosystems.

Invitation to Collaboration: Biofactor invites you to join us in cultivating a healthier and more sustainable future. Together, let's leverage the power of bio-technology to nourish the Earth for generations to come.

2 FAQ & Answers on Bio-Fertilizers

Q1. What are Bio-Fertilizers? A mixture of micro-organisms that are alive and provide nutrients to crops of agricultural importance.

Q2. What is the necessity of using Bio-Fertilizers in Agriculture? Only 25–50% of nutrients (Nitrogen, Phosphorus, Potash, Zinc, Iron) present in chemical fertilizers like Urea, DAP, Super Phosphate, Zinc Sulphate are available to plants. The remaining 50–75% of nutrients remain in neutral state in the soil. Only these nutrients can be supplied to the plant through Bio-Fertilizers.

Q3. What are the benefits of using Bio-Fertilizers?
- Assimilates nitrogen from the air and dissolves phosphorus, potash, zinc, iron, and other nutrients in neutral state of soil, providing them to plants.
- Reduces use of chemical fertilizers by 20–25% and increases yield by 15–20%.
- Micro-organisms release biochemicals near plant roots that are useful for growth.
- Protects plant from waterlogging.
- Prevents some soil-borne diseases.
- Increases the number of good micro-organisms in the soil.

Q4. What are nutrients to crops? A vital mixture of micro-organisms that absorb and provide nutrients to crops of agricultural importance.

Q5. How to use Bio-Fertilizers?
- **Solid Bio-Fertilizers:** Apply in soil during ploughing, seedbed preparation, furrow, in the seedling area, around the roots, and along the furrow.
- **Liquid Bio-Fertilizers:** Spray through foliar application, seed dip, or through drip irrigation.

Q6. What precautions should be taken while using Bio-Fertilizers?
- Store Bio-Fertilizers in cool places (do not expose to sunlight).
- Use within 6 months from the manufacturing date.
- Avoid mixing with chemical fertilizers and pesticides.
- Apply in moist soil for better results.
- The moisture content of the soil should be adequate at the time of application.

Q7. What are the causes for non-availability of Bio-Fertilizers?
- Non-availability of high-quality raw materials and microbial species.
- Lack of proper carrier materials.
- Lack of proper research facilities to suit local crop needs.
- Lack of Bio-Fertilizer manufacturing units with advanced technology.
- Non-availability of suitable bio-encapsulation methods for different nutrients.

3 Product Information

3.1 Aadhaar Gold & INM Chakra

3.1.1 Aadhaar Gold (Carrier Consortium Granular Biofertilizer)

Expanded Product Intelligence (Merged)

Company Biofac Inputs Private Limited

Product Aadhaar Gold

Category Carrier Consortium Biofertilizer (Granular)

Product Code / SKU 31010099

Pack Sizes 4 kg/acre

Product Type Granular Biofertilizer Consortium

Overview Aadhaar Gold is a granular-based biofertilizer consortium designed to enhance soil fertility and crop productivity through **Bio-Encapsulation Technology**. It combines nitrogen-fixing, phosphate-solubilizing, and potassium-mobilizing microorganisms in a single product. The advanced encapsulation ensures long microbial shelf life, gradual release, and compatibility with chemical fertilizers. It improves soil health, root strength, and tolerance to abiotic stress while supporting sustainable crop nutrition.

Key Composition (Label Specs)

- **Azotobacter:** $\geq 1 \times 10^7$ CFU/g
- **Phosphate Solubilizing Bacteria (PSB):** $\geq 1 \times 10^7$ CFU/g
- **Potassium Mobilizing Bacteria (KMB):** $\geq 1 \times 10^7$ CFU/g
- **Total Viable Count:** $\geq 3 \times 10^7$ CFU/g of carrier

Mechanism of Action

- Fixes atmospheric nitrogen and converts soil-bound phosphorus and potassium into plant-available forms.
- Bio-Encapsulation improves microbial stability and field performance.
- Gradual release ensures sustained nutrient availability.
- Strengthens rhizosphere activity and root nutrient uptake.
- Protects against abiotic stresses (drought, salinity, temperature).

Scientific Principle Based on Bio-Encapsulation Technology — encapsulated beneficial microbes remain viable longer, protected by organic coating that withstands field stress. Gradual release enhances microbial activity and nutrient efficiency over time.

Unique Selling Proposition (USP)

- **Triple Action Formula:** N-fixing, P-solubilizing, K-mobilizing bacteria.
- **Bio-Encapsulation Advantage:** Longer shelf life, higher survival rate.
- **Consistent Results:** 25–30% yield increase over conventional biofertilizers.
- **Eco-Friendly:** Reduces dependency on chemical fertilizers.
- **Farmer Friendly:** Easy 4 kg/acre application; compatible with organic inputs.
- **Certified:** Patented, R&D backed, quality-validated.

Crop Mapping & Doses

- **Paddy (Special):** Vegetative stage; 4 kg/acre; with FYM/broadcasting; once per season.
- **Cotton (Special):** Vegetative to flowering; 4 kg/acre; basal/soil application; once per season.
- **Chilli/Tomato:** Vegetative stage; 4 kg/acre; with FYM; once per season.
- **Sugarcane (Special):** Early vegetative; 4–5 kg/acre; furrow/broadcast; once per season.

- **Groundnut/Pulses/Oilseeds:** Vegetative stage; 4 kg/acre; soil application; once per season.

Usage Guidelines

When to Apply During land preparation or early vegetative stage.

How to Apply Mix 4 kg Aadhaar Gold/acre with well-decomposed FYM or compost; apply evenly over moist soil by broadcasting or incorporation.

Compatibility Can be mixed with organic manures or biofertilizers; avoid direct contact with chemical fungicides or concentrated fertilizers.

Storage Store in a cool, dry place away from sunlight, moisture, and pesticides.

Handling Use gloves and masks for bulk handling.

Shelf Life 12 months from date of manufacture under recommended conditions.

Market & Competitor Intelligence

- **Multiplex Bio-NPK Blends:** 350–500/kg — Aadhaar Gold has better encapsulation and survival.
- **Local Bio-NPK Consortiums:** 300–400/kg — Aadhaar Gold ensures consistency, certification, and patented formulation.
- **Generic Rhizobium/PSB/KMB:** 200–300/kg — Aadhaar Gold unifies all three microbial functions.
- **Griffin (IPL Biologicals):** 1600/kg — Aadhaar Gold offers localized formulation at lower cost.

Aadhaar Gold Advantage: Triple action, encapsulated microbes, consistent CFU count, field-tested performance, cost-effective.

Positioning & Sales Pitch **Target Segment:** Farmers growing paddy, cotton, sugarcane, chilli, pulses, and oilseeds. **Ideal Regions:** High-chemical-use areas with declining soil fertility.

Dealer Pitch:

- Strong market for NPK biofertilizers.
- Bio-Encapsulation Technology ensures high shelf stability.
- 25–30% yield improvement; consistent results.
- Cost-effective and repeat orders assured.

Farmer Pitch:

> "Aadhaar Gold gives your crop complete NPK nutrition organically." "Chemical fertilizers feed plants temporarily—Aadhaar Gold builds soil fertility naturally." "Within 2–3 weeks, you'll see stronger roots, greener leaves, and higher yield."

Field Results & Research Validation

- **Trials:** Multi-location demonstrations in AP, Telangana, Maharashtra.
- **Yield Impact:** 25–30% increase in cotton and chilli.

- **Observed Benefits:** Stronger roots, higher foliage density, better nutrient uptake.
- **Certifications:** Patented, validated, and certified organic by Biofac.
- **Farmer Feedback:** High satisfaction; visible growth in 2–3 weeks.

FAQs

Use Supplies essential NPK naturally through beneficial microbes.

Difference Triple-action formula; encapsulated microbes ensure consistent performance.

Timing Apply at vegetative or early establishment stage.

Mixing Compatible with biofertilizers and organic manures; avoid direct chemical mixing.

Dosage 4 kg/acre; economical vs multi-product alternatives.

Certification Certified organic; residue-free.

Results Visible in 2–3 weeks.

Chemical Mixing Compatible with fertilizers, not fungicides.

Regional Adaptation

- **AP & Telangana:** Paddy, Chilli, Cotton — resolves nutrient depletion, improves soil fertility.
- **Maharashtra:** Cotton, Sugarcane, Soybean — restores microbial balance, reduces urea/DAP dependency.
- **Karnataka:** Paddy, Horticulture — encapsulation ensures survival under water stress.
- **Gujarat:** Groundnut, Cotton — improves root health under saline soils.
- **Tamil Nadu:** Paddy, Vegetables — organic solution for yield sustainability.

Knowledge Base References

- Product Brochure / Label: Aadhaar Gold (Biofactor)
- Demonstration Reports: AP, Telangana, Maharashtra trials
- Visuals: Farmer field days, before-after images
- Marketing Collaterals: Posters, WhatsApp creatives, dealer kits

Keywords for AI / Voice Agent "Triple-action NPK biofertilizer", "Bio-Encapsulated microbial granules", "Organic alternative to DAP", "Soil fertility restoration", "4 kg per acre biofertilizer", "Root growth promoter", "Biofactor Aadhaar Gold", "Nitrogen fixer phosphate solubilizer potassium mobilizer".

Extra Notes Common employee mistake: Describing it as a single-strain product. Scientific insight: Bio-Encapsulation ensures prolonged microbial survival and gradual release. Success stories: Farmers in Warangal (cotton) and Guntur (chilli) reported 25–30% yield gains, stronger roots, and greener crops.

3.1.2 INM Chakra

INM-Chakra introduces bacterial consortium encapsulated in liquid form, offering a stable source of nitrogen, phosphorus, and potassium. This consortium comprises a minimum of 1.5×10^7 bacteria per millilitre. It is specially formulated in liquid form for easy application in the field.

Benefits:

- Collects nitrogen from the air, dissolves phosphorus, potash and other nutrients in neutral state and returns them to plants.
- Number of good microorganisms increases → soil fertility improves.
- Increases yields and quality by 25–30% while reducing investments by 20–25%.

Dosage & Application:

- Dosage: 5 litres per acre.
- Should be given by drip irrigation in the first stage (within 10–15 days after sowing).
- For short-term crops: 2 times during crop period.
- For long-term crops: 2 or 3 times a year.
- Five days before and after chemical fertilizers, avoid giving through drip irrigation.

3.2 GVAMSPF (Vesicular Arbuscular Mycorrhiza)

GVAM, employing its cutting-edge Bio-encapsulation technology, presents solid granules and liquid formulations of mycorrhiza – a pivotal microorganism adept at efficiently retrieving essential nutrients, particularly phosphorus, for plant roots. These granules and liquid variants act as a vital conduit for plant sustenance. Within a mere gram or millilitre, a minimum of 10 mycorrhizal spores is encapsulated. Highly effective Bio-encapsulation (patented technology) ensures the availability of these Mycorrhiza variants in both granular and liquid states.

Benefits:

- Significantly improves absorption of phosphorus from the soil through its intricate root network, fostering plant growth even in soils with diminished phosphorus levels.
- Augments the population, contributing to enhanced nutrient uptake and overall plant vitality.
- Acts as a shield, safeguarding plants from soil-borne diseases and resulting in healthier crops.

Dosage & Application:

- Dosage: 10 kg per acre for granular form, 5 litres per acre for liquid form.
- Granular Form: Apply granules directly to the soil during final ploughing or when sowing seeds.
- Liquid Form: Administer during the initial phase – either at planting or shortly thereafter.

Application Frequency:

- For short-duration crops: A single application during the cropping season is sufficient.
- For long-duration crops: Apply 1 to 2 times annually.

Caution:

- For granular form: Ensure thorough mixing during seedbed preparation.
- For liquid form: Apply directly to roots during planting or shortly afterwards.

3.3 N-Factor & P-Factor

3.3.1 N-Factor – Nitrogen Fixing Bacteria

N-Factor refers to free-living or endophytic bacteria that play a key role in stabilizing nitrogen in the environment. In one millilitre of liquid, a minimum of 1x10 bacteria is present. These bacteria, through release of various enzymes into the environment, convert atmospheric nitrogen (N) into immediately absorbable forms such as ammonia (NH) or nitrate (NO) for plants.

Benefits:

- Stabilizes 20 to 40 kg of nitrogen per hectare, significantly enhancing nitrogen availability.
- Reduces need for chemical fertilizers by 25-30%.
- Stimulates release of auxins, gibberellic acid, and cytokinins, fostering plant growth.
- Improves moisture absorption capacity of plants from soil, resulting in 10-15% increase in crop yield in rain-fed areas.

Dosage & Application:

- Dosage: 1 litre per acre.
- Initially, apply through seed treatment using seed-dip method, followed by foliar spray during subsequent stages.
- In case of weather changes, apply 1 litre per acre as foliar spray.

Application Frequency:

- For short-duration crops: Single application per crop cycle.
- For mid-duration crops: Apply twice.
- For long-duration crops: Apply 2 to 3 times per crop cycle.

3.3.2 P-Factor – Phosphorus Solubilizing Bacteria

The P-Factor represents liquid living fertilizer, a potent blend of free-living and endophytic bacteria designed to unlock the power of phosphorus in neutral soil conditions. With a concentration of at least 1x10 bacteria per millilitre, this solution harnesses the natural ability of bacteria to solubilize phosphorus. Once applied, these bacteria seamlessly integrate into the soil, releasing enzymes that dissolve inaccessible phosphorus and transform it into a readily available form for plants.

Benefits:

- Provides a substantial yield of 25–30 kg of phosphorus per hectare, reducing reliance on chemical fertilizers by 20–25%.
- Stimulates secretion of specific hormones and bio-chemicals in the root region, fostering plant growth.
- Results in a significant boost in crop yield (15–20%), contributing to sustainable and efficient agricultural practices.

Dosage & Application:

- Dosage: 1 litre per acre.
- Initiate via drip irrigation initially, followed by strategic spraying during subsequent stages.
- Apply during sowing or spraying for continuous release in crop root zone.

Application Frequency:

- For short-duration crops: Single application per crop cycle.
- For mid-duration crops: Apply twice.
- For long-duration crops: Apply 2 to 3 times per crop cycle.

3.4 K-FACTOR

K-factor refers to free-living or endophytic bacteria in the rhizosphere, which are responsible for mobilizing potassium in the soil. In one millilitre of fluid, there are at least 1x10 bacteria. These bacteria, after entering the soil, release a variety of organic acids and enzymes into the root zone. As a result, they facilitate the assimilation of potassium, making it more available to plants.

Advantages:

- Improves potassium availability to plants from early stages, promotes strong root development, stem and tuber formation. In addition, it contributes to increase the arrangement of flowers and fruits.
- Reduces the need for chemical potassium fertilizers by 20-25%.
- Exhibits antagonistic properties against various plant pathogens, contributes better disease resistance, improves plant vigor and yield.

Dosage & Application:

- Dosage: 1 liter per acre.
- Initially, apply by seed treatment using seedling dipping method, followed by foliar spray during growth stages.

Application Frequency:

- For short-duration crops, a single application per crop cycle is recommended.
- For mid-season crops, apply twice.

3.5 ZN-FACTOR

ZN-FACTOR represents free-living or endophytic bacteria within the rhizosphere that actively participate in the solubilization of zinc in the soil. In one millilitre of liquid, a minimum of 1x10 bacteria can be identified. When introduced into the soil, these bacteria release various organic acids and enzymes into the root zone, facilitating the solubilization of zinc and enhancing its availability to plants.

Benefits:

- Enhances zinc accessibility to plants from the early growth stages, promoting robust root development and improving stem and tuber formation. It also contributes to increased flower and fruit setting.
- Reduces dependence on chemical zinc fertilizers by 20-25%.
- Exhibits antagonistic properties against various plant pathogens, thereby enhancing overall disease resistance.
- Significantly contributes to the total zinc nutrient pool, thereby improving plant vigour and yield.

Dosage & Application:

- Dosage: 1 litre per acre.
- Initially, apply through seed treatment using a seedling dip method, followed by foliar spray during subsequent growth stages.
- In case of changes in weather conditions, apply 1 litre per acre through foliar spray.

Application Frequency:

- For short-duration crops, a single application during the crop cycle is recommended.
- For mid-duration crops, apply twice.
- For long-duration crops, apply 2 to 3 times per crop cycle.

3.6 Bio Fertilize

Biofactor Bio Fertilizer

- Green Bag (NUTRI4)
  - Schedule: 3 (Bio Fertilizers)
  - Carrier: consortium
  - Crops: All crops
  - Dosage: 50 kg/acre
- Blue Bag (NPK)
  - Schedule: 3 (Bio Fertilizers)
  - Carrier: consortium
  - Crops: All crops
  - Dosage: 50 kg/acre

- Red Bag (Potash)
  - Schedule: 3 (Bio Fertilizers)
  - Carrier: Potassium solubilizing bacteria
  - Crops: All crops
  - Dosage: 50 kg/acre

Application Instructions:

- Apply the granules directly to the soil during final tillage or when sowing seeds.
- Short duration crops: One application during the crop rotation is recommended.
- Mid-season crops: Apply twice.
- Long-duration crops: Apply 2 to 3 times per crop cycle.

Comment:

- Uniqueness: It is prepared by bio-encapsulation process so it can be used in combination with other chemical fertilizers.

3.7 BIO TRIPLE ACTION PROGRAM

A community of new and locally adapted bacteria that provide nitrogen, phosphorus, and potash.

- Form: Pellets
- One gram of pellets contains at least $3\times10\hat{}7$ bacteria.

Functions:

- Collects nitrogen from the air.
- Dissolves phosphorus, potash, and other natural soil nutrients and returns them to the plant.

Benefits:

- Increases yields and quality by 25–30%.
- Reduces investment by 20–25%.

3.8 BIO DOUBLE ACTION PROGRAM

A group of bacteria that fix nitrogen from the air and solubilize neutral phosphorus in the soil.

- Form: Granules
- One gram of granules contains at least $2\times10\hat{}7$ bacteria.

Functions:

- Collects nitrogen from the air and delivers it to crops.
- Secretes organic acids and enzymes into the root area to make unavailable phosphorus accessible to crops.

Benefits:

- Provides 25 kg nitrogen and 25–30 kg phosphorus per acre.
- Crop yields increase by 15–20%.
- Plant health is boosted by 20–25% when combined with chemical fertilizers.

3.9 Biopotash

A collection of bacteria specialized in solubilizing potash.

- Form: Granules or pellets
- One gram contains at least 5×10ˆ7 bacteria.

Functions:

- Enter the soil and secrete organic acids and enzymes to dissolve unavailable potash.

Benefits:

- Increases yields and quality by 15–20%.
- Plant health is boosted by 20–25% in combination with chemical fertilizers.

3.10 BIOFACTOR Bio Fertilizer

3.10.1 PROCEED – Biotic & Abiotic Stress Relieve

Description: A liquid bio-fertilizer containing bacterial complex to help plants under abiotic and biotic stress by providing nitrogen, phosphorus, potash, and other nutrients.

Bacterial count: 1 ml contains at least 1.5×10ˆ7 bacteria.

Special Features: Formulated in liquid form for accurate bacterial count using new bacterial strains that provide nutrients and protect against environmental/biological stresses.

Advantages:

- Helps in water stress tolerance, increases water uptake capacity, and nutrient availability.
- Facilitates salt ion exclusion in saline soils, reducing salinity stress.
- Reduces heavy metal toxicity in soil through efficient nutrient uptake.

Dosage & Application:

- Dosage: 500 ml/acre.
- Application: Spray at first stage of crop (within 30 days after sowing) or when waterlogging is a problem.
- Frequency: 1 time in first stage; as needed in later stages.

3.10.2 PRITHVI – Controls Sucking Pest

Description: Liquid bio-fertilizer with bacteria that fight sap-sucking insects and provide essential nutrients.

Bacterial count: 1 ml contains at least 1.5×10ˆ7 bacteria.

Mode of action: Bacteria release biochemicals disrupting insect nervous systems.

Advantages:

- Enhances availability of nutrients, root growth, and soil health.
- Increases ability to fight sap-sucking insects and pests.
- Low-cost, eco-friendly, and natural nutrient source.

Dosage & Application:

- Dosage: 1.5–2 l/acre (7–10 ml per liter of water).
- Application: At first stage (within 30 days of sowing), 1 time in first stage; as needed later.

3.10.3 PROMOTE

Phosphate Rich Organic Manure

Description: Organic fertilizer rich in phosphorus (nano form) with phosphorus-solubilizing bacteria. Contains C 8%, P 8%, N 0.4%, CN ratio 20:1.

Function: Provides phosphorus directly to plants and dissolves neutral-state phosphorus in soil.

Advantages:

- 100% plant utilization of phosphorus.
- Microorganisms grow through organic matter, increasing nutrient availability and soil health.
- Produces healthy crops with high-quality yields at low cost.

Dosage & Application:

- Dosage: 100 kg/acre
- Application: Apply in last furrow/seed or footings during transplanting.
- Frequency: 1 time for short-duration crops; 2 times for mid-term crops; 2–3 times per year for perennial crops.

3.10.4 SUMCA – Bio Enriched Organic Manure

Description: Organic fertilizer with bacteria providing N, P, K, and Zn. One gram of granules contains 5×10ˆ7 bacteria. Organic carbon 14%; NPK all-inclusive ≥3%.

Function: Solubilizes nutrients in soil and makes them available to plants.

Advantages:

- Can be applied alongside organic fertilizers.
- Promotes growth of microorganisms, improving nutrient availability.
- Ensures healthy crops, high-quality yields, and reduces investment.

Dosage & Application:

- Dosage: 100 kg/acre
- Application: Apply in last furrow/seed or footings during transplanting.
- Frequency: 1 time for short-duration crops; 2 times for mid-term crops; 2–3 times per year for perennial crops.

4 Organic fertilizers :

All types of nutrients are required by the plant at each growth stage but their dosage varies depending on the growth stage. The Belom series is a combination of organic liquid nutrients (As per growth stage with specific micronutrients) specially formulated to provide major nutrients (Nitrogen, Phosphorus and Potash at least 1.2%) and secondary(Calcium ,Magnesium,Sulphur) and micro nutrients in required doses for the growth stage of the crop.

Advantages:

- Fermentation of organic fertilizers using new and effective microorganisms which increases nutrient availability.
- So plants get nutrients easily (Bioavailability of nutrients). Nutrients use increases it's efficiency and the plant can fully utilize its genetic potential.

Belom S-1: Provides the main nutrients required for the vegetative growth (like nitrogen slightly at high amount, phosphorus and potash at moderate amount if compared in between) and also provides all types of micronutrients required for this stage (Especially for Vegetative growth with specific micronutrients which helps in growing shoots) in appropriate dosage in liquid form which promote strong root system, more branching and healthy foliage growth.

Belom S-2: Providing the main nutrients required for the flowering and bud setting stage (like Phosphorus slightly at high amount ,Nitrogen and potash at moderate amount if compared in between) and also provides all types of micronutrients required for this stage (Especially for Flowering stage with specific micronutrients which helps in f lower initiation) in appropriate dosage in liquid form. Promotes healthy flowers (more number of female flowers setting) , more pollination and better bud setting.

Belom S-3: Provides the main nutrients required for the fruit development to ripening stage (like Potash slightly at high amount,Nitrogen and Phosphorus at moderate amount if compared in between) and also provides all types of micronutrients required for this stage (Especially during Fruit development to ripening stage with specific micro nutrients which helps during this stage) in appropriate dosage in liquid form. Contributes to more pod formation, no drop of pods, heavier kernels in pods formed,Increases sugar content especially in fruits and automatically gives higher quality

All types of nutrients are required by the plant at each growth stage but their dosage varies depending on the growth stage. This nutrient series (As per growth stage with specific macronutrients) is a mixture of organic liquid nutrients specially formulated to provide secondary and

micronutrients and main nutrients in required doses for crop growth. Deficiency symptoms are more pronounced in dark leaves when major nutrients such as nitrogen, phosphorus and potash are deficient

Advantages:

- Bioavailability of nutrients to plants.
- Nutrients use efficiency increases. The plant will yield as much as it is genetically capable of.

Nutrient Level-1: Vegetative stage specific macronutrients (Vegetative stage specific macronutrients) in liquid form, providing all types of major nutrients (nitrogen, phosphorus and potash) required for this stage, providing secondary and micro nutrients. Promotes strong root system, more branches and healthy foliage growth.

Nutrient Level-2: At Flowering stage (specific macronutrients in adequate amounts as per plant growth stage in liquid form) providing secondary nutrients(Calcium,Magnesium,Sulphur) and 8 micronutrients required for the flow ering stage. Promotes healthy canopy (more female flowers) and more pods.

Nutrient Level-3: Provides secondary and micro nutrients required for fruit growth stage and provides all types of major nutrients (Nitrogen, Phosphorus and Potash) required for this stage At Fruiting stage requires specific macro nutrients in appropriate dosage in liquid form. Contributes to more pod formation, no drop of pods, heavier kernels in pods formed and higher quality.

Nutrient Level-4: At Fruiting & Multiple harvests stage specific macronutrients in liquid form providing secondary and micro nutrients which are required for this stage. More cuttings result in less pod drop, heavier kernels are formed in pods and give higher quality. pods, heavier kernels in pods formed and higher quality

4.1 Poshak Level-1 (Liquid Fermented Organic Fertilizer)

Product Intelligence Summary

Company Name Poshak-L1

Product Name Organic Fertilizer

Category Plant Growth Promoter (Organic)

Type Liquid Fermented Organic Fertilizer

Product Code/SKU 31010099

Pack Sizes 1 L & 5 L

Overview POSHAK LEVEL-1 is a Liquid Fermented Organic Manure designed for vegetative stage application. It enhances nutrient uptake, improves soil structure, and promotes healthy foliage and root growth. The fermentation process converts organic matter into simpler, plant-available forms, making it a sustainable choice for both organic and conventional farming systems.

Key Composition (Label Specs)

- Moisture: 90–97%

- Total Organic Carbon: 14% (dry basis)
- Total N, P_2O_5, K_2O: 1.2% (dry basis)
- C:N Ratio: up to 30%
- pH: 6.5–8.4
- Conductivity $\leq$ 4 dS/m
- Heavy Metals (mg/kg, max): As 10, Cd 5, Cr 50, Cu 300, Hg 0.15, Ni 50, Pb 100, Zn 1000

Advantages

- Improved nutrient availability
- Enhanced soil structure
- Nutrient-rich and environmentally friendly
- Long-lasting effects

Dosage & Application

Dosage 1 L/acre

Stage Vegetative stage

Method Drip irrigation, drenching, or foliar spray

Frequency Every 15–20 days depending on crop growth

Scientific Principle / Mode

- Works on fermentation-based organic matter breakdown.
- Provides macro (NPK), secondary, and micronutrients in liquid form.
- Improves C:N balance and maintains optimal pH & conductivity for root growth.
- Encourages beneficial microbes through enriched organic matter.

Unique Selling Proposition (USP)

- Stage-specific vegetative nutrition
- Nutrient-rich and certified organic
- Long shelf life (3 years)
- Simple 1 L/acre dosage

Crop Mapping (Examples)

- **Paddy:** Nutrient loss, weak roots, poor foliage $\rightarrow$ 1 L/acre via irrigation every 7–10 days.
- **Cotton:** Weak branching, slow vegetative growth $\rightarrow$ 1 L/acre via irrigation every 7–10 days.
- **Vegetables:** Poor nutrient availability, soil health issues $\rightarrow$ 1 L/acre via irrigation every 7–10 days.

Product Information (Label) Batch: BFNN10k160; DOM: 25/02/2024; DOE: 24/02/2025; MRP: 900 (1 L); Shelf life: 3 years; Lic. No.: SRD/39/ADDL.DA/FM/2017/20426. Manufacturer: Biofac Inputs Pvt. Ltd., 74C, Anrich Industrial Estate, IDA Bollaram, Sangareddy 502325. Feedback: +91 92980 11119, info@biofactor.in, `www.biofactor.in`. Storage: Shake well before use; store at room temperature; protect from sunlight; for agricultural use only.

Market & Competitor Highlights

- **Generic LFOM:** 700–900/L; basic fermented manure; uncertified, short shelf life.
- **Panchagavya/Jeevamruth:** 300–500/L; traditional inputs; lower nutrient consistency.
- **Other Organic Manures:** 800–1000/L; general-purpose, delayed results.

Poshak-L1 Advantage: Certified organic, stage-specific, standardized nutrient content, 3-year shelf life, farmer-friendly dosage.

Positioning & Sales Pitch **Ideal Target Segment:** Farmers in Andhra Pradesh, Telangana, Maharashtra, Karnataka. **Target Crops:** Paddy, Cotton, Vegetables. **Problem Areas:** Nutrient loss in vegetative stage, weak roots, poor foliage, overuse of chemical fertilizers.

Dealer Pitch:

- Certified organic with strong farmer demand.
- Long shelf life (3 years) – zero stock loss.
- Stage-specific (vegetative) vs. generic LFOM.
- Consistent results, easy farmer adoption (1 L/acre).

Farmer Pitch:

> "Your crop needs strong roots and lush leaves during vegetative stage. Poshak-L1 delivers that organically." "Chemical fertilizers give quick results but harm soil; Poshak-L1 improves yield & fertility sustainably." "Within 2–3 weeks, expect greener foliage, stronger branches, and healthy roots."

Field Results & Research Validation

- **Trial Data:** Demonstrations in paddy & cotton fields across AP & Telangana.
- **Performance:** Stronger roots, dense foliage, improved nutrient uptake.
- **Yield:** 20–25% increase compared to untreated fields.
- **Certification:** Certified organic under Biofactor standards.
- **Farmer Feedback:** Healthier soil, reduced chemical dependency, repeat adoption.

FAQs

Use For vegetative stage nutrition & soil health.

Difference Stage-specific, certified, nutrient-rich, consistent quality.

Timing Apply at vegetative stage, 1 L/acre.

Compatibility Mixable with biofertilizers; avoid direct pesticide mixing.

Cost 900 per litre; 1 L per acre.

Results Visible in 2–3 weeks.

Certification Certified organic; residue-free.

Mixing with Chemicals Can be mixed with fertilizers; avoid pesticides.

Regional Adaptation

- **AP & Telangana:** Paddy, Cotton, Vegetables — combats nutrient leaching, improves fertility.
- **Maharashtra:** Cotton, Vegetables — rebuilds soil structure, reduces chemical dependency.
- **Karnataka:** Paddy, Horticulture — balances vegetative nutrition, enhances soil health.

Knowledge Base References

- Product Brochure / Label PDF: Poshak-L1 Label.
- Field Trials: AP & Telangana demonstration reports.
- Media: Field photos & videos (paddy/cotton).
- Marketing Collaterals: Posters, WhatsApp creatives.

Keywords for AI / Voice Agent "Vegetative stage biofertilizer", "Organic manure for paddy", "Cotton vegetative growth solution", "Soil fertility improvement organic product", "1 litre per acre dosage", "Certified organic liquid manure", "Reduce chemical fertilizer dependency", "Stage-specific nutrition product".

Extra Notes Common employee mistake: Positioning as general-purpose instead of stage-specific. Scientific rationale: Fermentation ensures faster nutrient uptake. Success stories: Farmers in Telangana observed 20–25% higher yield and stronger roots after repeated use.

5 Biofactor's chemical fertilizers:

Today the agricultural sector is facing harsher and more unpredictable weather conditions than ever before. Similarly, the soil's nutrient capacity and microbial population are reduced. Although farmers use traditional chem ical fertilizers found in the market, the nutrient availability and utilization efficiency of plants has decreased due to the high particle size of these nutrients.

To overcome these problems, Biofactor has developed the Microbe Metabolite Assisted Micron Sized Par ticles (MAMSP) technology, which uses microbes to microsize the particle size. All the products made using this technology have very small sized of nutrients. Thus the availability and utilization efficiency of nutrients to plants increases. They work with three times higher efficiency compared to regular fertilizers. Therefore the biofactor can get more results using less quantity of their chemical nutrients

POTASSIUM THIOSULPHATE - 25% A liquid nutrient mixture that provides potassium. It contains 25% potash as well as calcium, boron and manganese required for flowering and fruiting de velopment. Formulated using MAMS (Microbe Assisted Microsize Particle) tech nology.Thereby increasing nutrient availability and utilization efficiency.After use of High-K Sugar content in fruits increases and fruit pulp enhances due to which fruit gets more sweetened get more shining and gaining more weight that im proves quality of fruit.

Advantages:

- Spraying during the flowering stage helps in healthy flowers (more female f lowers) and more pollination.
- Spraying at the pod stage contributes to more pod formation, more harvests, less pod drop, more seeds in pods formed and higher quality
- Increases resistance to insects and pests. Helps to withstand water stress.

Dosage:

- Spray method 500 - 800 ml/acre (2.5-4.0 ml/liter of water)

Application:

- Give the plants by spraying or drip irrigation during flowering stage, pod growth and fruiting stages.

Frequency:

- Spray or drip irrigation - once every 7-10 days

5.0.1 CHELATED ZINC AS ZINC GLYCINE (LIQUID)

Liquid nutrient mixture providing zinc nutrient (6.8%). Zinc is in chelate form and forms stable complexes with zinc ions. This chelated zinc does not become neutral when mixed with other elements in the soil. Formulated using MAMSP (Microbe Assisted Microsize Particle) technology. Deficiency symptoms: Zinc deficiency is more common in tender leaves. The leaves turn yellow and gradually turn brown. Zinc is of great im portance in horticultural crops.

Advantages:

- Helps in photosynthesis, production of enzymes and production of hor mones (auxins cytokines) required for crop growth.
- Formulated by MAMS (Microbe Assisted Microsize Particle) technology. So zinc is readily available to plants even in problem soils and utilization efficiency is increased.
- Healthy flowers are formed and a high percentage of pollen is produced. High quality yields can be achieved.

Dosage:

- 250 ml/acre (1.0-1.5 ml/liter of water)

Application:

- It should be given to the plants by spraying as soon as nutrient deficiency is observed. All crops should be sprayed once at the budding stage and once at flowering & fruiting stage.

Frequency:

- As soon as nutritional deficiency is noticed, it should be used twice in 10 15 days

5.0.2 CHELATED BORON AS BORON GLYCINE (LIQUID)

- 5% Boron (5%) is a liquid nutrient mixture that provides the nutrient. Formu lated using MAMS (Microbe Assisted Microsize Particle) technology.Boron is of great importance in horticultural crops

Deficiency Symptoms:

- Less number of female flowers in vine crops, oozing of milk from pods in papaya and cracking of pods in mango and sapota crops.

Advantages:

- Plays a major role in the formation of healthy reproductive parts.
- By spraying during flowering, more female flowers will come and more polli nation will occur. Thus higher yields can be achieved.
- Spraying at the time of fruiting and harvesting can prevent cracks on the fruit, increase the weight of the fruit and achieve high quality

Dosage:

- 250 ml/acre (1.0-1.5 ml/liter of water)

Application:

- It should be given to the plants by spraying as soon as nutrient deficiency is observed. All crops should be sprayed once at bud stage and once every 30-45 days during flowering & fruiting.

Frequancy:

- As soon as nutritional deficiency is observed, it should be used twice in a period of 20-30 days.

5.0.3 Ferron

19% Ferrous Sulphate

Nutrient mixture providing iron nutrient. Formulated using MAMS (Microbe Assisted Microsize Particle) technology. Deficiency Symptoms: Iron deficiency causes leaves to lose green color and turn white (chlorosis) and plants become stunted.

Advantages:

- Plays a major role in making leafy greens required for photosynthesis. It helps in making plant food.
- Iron is an important cofactor in the production of enzymes required for vari ous biological functions in the plant.
- These enzymes are useful in plants for nitrogen fixation, electron supply, synthesis of DNA and induction of antiox idants. Iron plays a vital role in respiration and transport of nutrients in plants.

Dosage:

- 1 gm/liter of water

Application:

- It should be given to the plants by spraying as soon as nutrient deficiency is noticed. All crops should be sprayed once at the budding stage and once at flowering & fruiting stage.

Frequency

- As soon as nutritional deficiency is noticed, it should be used twice in 10-15 days

5.0.4 MAGNESIUM HYDROXIDE AND ZINC PHOSPHATE

A liquid nutrient mixture that provides magnesium (24%) and Zinc (10%). Formulated using MAMS (Microbe Assisted Microsize Particle) technology.

Deficiency symptoms: When magnesium is deficient, the center of the leaves or the entire leaf turns yellow and the leaves become smaller

Advantages:

- Magnesium is an essential component of chlorophyll and plays a major role in photosynthesis. Stimulates enzymes useful in nutrient transport.
- This helps in supplying nutrients like phosphorus and zinc and iron to the growing parts along with magnesium.
- Protects plants from waterlogging and pests while increasing nutrient avail ability and utilization efficiency.

Dosage:

- 500 ml/acre (2.5 ml/liter of water)

Application:

- Apply to the plants by spraying as soon as nutrient deficiency is noticed. All crops should be sprayed once at budding stage and once every 30-45 days during flowering & fruiting

Frequency:

- As soon as nutritional deficiency is observed, it should be used twice in 10-15 days.

5.0.5 TRuMiN – MANGANESE CARBONATE SUSPENSION CONCENTRATE

Description: Liquid nutrient mixture providing manganese (26%), formulated using MAMS (Microbe Assisted Microsize Particle) technology.

Deficiency Symptoms:

- Leaves yellow from tips (chlorosis), stunted growth.
- Severe deficiency: dark brown burnt spots, leaves dry and crack when touched.

Advantages:

- Stimulates enzymes for photosynthesis, respiration, and nitrogen metabolism.
- Essential for chloroplasts and water supply in photosynthesis.
- Helps plants withstand water stress.

Dosage & Application:

- Dosage: 500 ml/acre (2.5 ml/liter of water)
- Spray when deficiency observed.
- All crops: once at budding stage and once at flowering & fruiting stage.
- Repeat twice within 10–15 days if deficiency continues.

5.0.6 COPSE – 24% Copper Sulphate

Description: Nutrient blend enriched with copper (24%), formulated using MAMS technology.

Deficiency Symptoms:

- Leaves yellow from tips inward (chlorosis), curling, distorted shapes, stunted growth.

Benefits:

- Essential for enzyme production, electron transport, ATP production.
- Synthesizes iron-containing proteins in chloroplasts, vital for photosynthesis.
- Protects against pests and fungal growth.

Dosage & Application:

- Dosage: 500 gm/acre (2 gm/liter of water)
- Spray promptly when deficiency observed.
- Apply once at budding stage and again at budding & seeding stages.
- Repeat twice in 10–15 days for optimal results.

5.0.7 BSL4Agri – A Novel Product for Viral Diseases

Description: Liquid nutrient mixture containing silver and copper (microsized particles via MAMS), reduces growth of fungi, viruses, and bacteria.

Mode of Action: Emits toxic ions that penetrate and destroy viruses and bacteria; reduces pathogen resistance in plants.

Benefits:

- Supports enzyme production for plant metabolism and ATP synthesis.
- Protects plants from viral and bacterial diseases.

Dosage & Application:

- Dosage: 1 L/acre (5 ml/liter of water)
- Spray as soon as virus/disease observed.
- Apply twice within 7–10 days.

5.1 What does that mean?

The method of irrigating the field in which the nutrient solu tions are dropped by drop near the water pipe or canal is called drop method.

5.2 What is the use?

Non-drip farmers cannot apply liquid nutrients through the soil. At such time, the nutrient solution reaches the entire f ield evenly until the field is watered by providing it in drop mode

5.3 NUTRI6 / Formula 6 – Liquid Micronutrient Blends

NUTRI6 | Formula 6

Composition: Zn 6%, Fe 4%, Mn 3%, B 2%, Cu 1%, Mo 0.05% (MAMS technology).

Problem: Farmers using complex fertilizers/DAP; micronutrient deficiency in young leaves (chlorosis, stunted growth, brown burnt spots).

Advantages:

- Prevents micronutrient deficiencies at all growth stages.
- Efficient absorption via MAMS technology.
- Promotes healthy foliar growth, strong fruit set, high coverage, high-quality yields.

Dosage & Application:

- Dosage: 500 ml/acre (2.5 ml/liter of water)
- Spray when deficiency observed, once at budding stage, once at flowering & fruiting stage.
- Better results: spray every 15 days in vegetables.
- Repeat twice within 10–15 days if deficiency continues.

Nutrito6 | Formula 6

Composition: Zn 5%, Fe 2%, Mn 2%, B 0.5% (MAMS technology).

Problem: Micronutrient deficiencies due to incomplete nutrition practices; plants weaker, virus-prone.

Advantages:

- Prevents micronutrient deficiencies in all crops even with virus infection.
- Efficient absorption via MAMS technology.
- Supports healthy foliar growth, strong fruit set, coverage, and high-quality yields.

Dosage & Application:

- Dosage: 300 ml/acre (1.5 ml/liter of water)
- Spray when deficiency observed, once at budding, once at flowering & fruiting stage.
- Repeat twice within 10–15 days; better results for vegetables with 15-day interval sprays.

5.4 FLOWMIN – Specially Designed for Drip Irrigation

Schedule: 1 (Chemical Fertilizers)

Form: Liquid Fertilizer

Crops: All crops

Packaging: 5 & 15 Ltr

Description: Liquid nutrient mixture for drip irrigation containing N, P, K as primary nutrients and secondary/micronutrients in nano size for efficient root absorption.

Early stage application improves root system, branching, and healthy green growth.

FLOWMIN Variants & Dosage

08-08-08: N 8%, P 8%, K 8%

Early crop stage: 2.5–4.0 L/acre via drip every 4 days.

Supports strong roots, more branches, healthy growth.

11-11-08: N 11%, P 11%, K 8%, Zn 0.7%, B 0.5–0.7%

Vegetative stage: 2.5–4.0 L/acre via drip every 4 days.

Supports healthy flowers, pollination.

06-00-18: N 6%, P 0%, K 18%, Ca 5%, Mg 2%, B 0.5–0.8%

Flowering & fruiting: 2.5–4.0 L/acre via drip every 4 days.

Supports pod formation, higher yield, heavier seeds.

CANMAG: N 10%, nitrate N 8.5%, Ca 15%, Mg 2%

Pod & cutting stages: 2.5–4.0 L/acre via drip every 4 days.

Improves pod color, seed weight, quality.

5.4.1 Sampoorna – Specially Designed for Foliar Nutrigation

Schedule: 1 (Liquid Fertilizer)

Form: Liquid Fertilizer

Crops: All crops

Packaging: 1 Ltr

Description: Complete series of foliar spray nutrient blends with nano-size particles for efficient leaf absorption.

Sampoorna Variants & Dosage

08-08-08: N 8%, P 8%, K 8%

Spray 1.5–2.0 L/acre every 7–10 days, early stage.

11-11-08: N 11%, P 11%, K 8%, Zn 0.7%, B 0.5–0.7%

Spray 1.5–2.0 L/acre every 7–10 days at vegetative stage.

06-00-18: N 6%, P 0%, K 18%, Ca 5%, Mg 2%

Spray 1.5–2.0 L/acre every 7–10 days, flowering & fruiting stage.

CANMAG: N 10%, nitrate N 8.5%, Ca 15%, Mg 2%

Spray 2.5–4.0 L/acre at pod & cutting stages.

6 Agriseal – A Novel Product for Stress Management

Description: Liquid blend with Vitamin C, amino acids, selenium, silica, seaweed; alleviates climatic and biotic stresses.

Advantages:

- Helps plants cope with drought, heat, cold, salinity, pests, and diseases.
- Supports metabolism, carbohydrate synthesis, nucleic acids, plant growth, and stress resistance.
- Improves quality yields during critical stages (flowering, pod, harvest).

Dosage & Application:

- Spray: 500 ml/acre (2.5 ml/liter)
- Drip irrigation: 1 L/acre
- Apply once during waterlogging, once during flowering, fruiting, or heavy harvests.

Packaging:

- 250 ml, 500 ml, 1 Ltr

6.1 BOC – A Novel Product of Liquid Organic Carbon

Description: Bio-organic carbon mixture derived from microbial & plant residues; enhances soil structure and nutrient availability.

Advantages:

- Delivers essential nutrients (N, P, K) aligned with crop growth.
- Enhances water retention.
- Supports microbial nutrient processing.
- Promotes holistic crop wellness & higher yields.

Dosage & Application:

- 5 L/acre
- Apply via drip irrigation or drop method during initial field preparation and subsequent stages; repeat twice for same garden crops.

6.2 Invictus – A Novel Product for Soil-Borne Diseases

Description: Biological control mixture (Trichoderma viridae, Trichoderma harzianum, Pseudomonas fluorescens) for soil-borne and airborne diseases.

Mode of Action: Controls crop-damaging fungi via enzymes and secondary metabolites.

Types & Application

- **Invictus V:** Trichoderma viridae, 2×10^7 CFU/g. Controls root rot, damping off, *Alternaria*, *Colletotrichum*, *Cercospora*, and other fungal diseases.
- **Invictus H:** Trichoderma harzianum, 2×10^7 CFU/g. Similar disease control as Invictus V.

Application Methods

- Per Acre: 10 kg
- Seed Treatment: 40 g/kg seed + 50 ml water, dry 30 min in shade before sowing.
- Before Sowing: 50 g Invictus + 10 kg cattle manure + 1 kg neem flour; shade for 15 days with intermittent water; then apply to 1-acre field.
- Seedling Plants: 100 g Invictus in 20 L water; submerge roots 30 min before planting.
- Main Field: 10 kg Invictus + 200 kg cattle manure + 20 kg neem flour; shade for 15 days, sprinkle water intermittently, then apply to field.

6.3 Invictus (Trichoderma viride 1.5% WP)

Expanded Product Intelligence (Merged)

Company Biofac Inputs Private Limited

Product Invictus

Category CABI Bio Protection – Soil-borne Disease Controller

Product Code / SKU 28332990

Pack Sizes 1 kg & 10 kg

Composition *Trichoderma viride* 1.5% WP; CFU $\geq 2 \times 10^6$/g; Carboxy Methyl Cellulose 1.5%; Carrier (Talc) 97%.

Mechanism of Action (MoA) Competitive exclusion, mycoparasitism, and secretion of antifungal metabolites. The Trichoderma culture colonizes the rhizosphere, outcompeting pathogens and promoting root vigor.

Overview Invictus is a novel soil-borne disease controller containing live *Trichoderma viride* culture (1.5% W.P.) with a minimum CFU count of 2×10^6/g. It effectively controls seed- and soil-borne pathogens such as *Rhizoctonia solani*, *Fusarium*, *Pythium*, *Phytophthora*, *Verticillium*, *Alternaria*, *Colletotrichum*, and *Cercospora*. It is safe, residue-free, and compatible with organic systems.

Key Composition (Label Specs)

- **Trichoderma viride:** 1.5%
- **CFU Count:** 2×10^6 per gram (minimum)
- **Carboxy Methyl Cellulose:** 1.5%
- **Carrier (Talc):** 97%

Mechanism Summary The active *Trichoderma viride* suppresses pathogens via:

- **Competitive exclusion:** Outcompetes fungal pathogens for space and nutrients.
- **Mycoparasitism:** Directly parasitizes harmful fungi.
- **Antifungal metabolites:** Produces compounds that inhibit pathogen growth.
- **Root zone colonization:** Improves rhizosphere activity, enhancing plant vigor and disease resistance.

Crop Mapping (Examples)

- **Tomato:** Root rot, damping-off — before transplanting — 10 kg/acre with FYM.
- **Okra:** Seed/soil-borne diseases — before sowing — 10 kg/acre with FYM.
- **Potato:** Soil-borne rot — before planting — 10 kg/acre, soil drench.
- **Chilli:** Wilt, root rot — before transplanting — 10 kg/acre via drenching/bed treatment.

Usage Guidelines

When to Use After ploughing and before planting or transplanting.

How to Use Mix 10 kg Invictus with 2.5 tons/acre well-decomposed FYM; apply uniformly across the soil.

Compatibility Compatible with biofertilizers; avoid mixing with chemical fungicides.

Storage Store in a cool, dry place away from sunlight.

Shelf Life 12 months from date of manufacture.

Advantages

- Uses validated strain **IIHR-TV-5** (Accession No. ITCC 6889)
- High CFU count ensures strong pathogen suppression.
- Broad-spectrum control against multiple fungal diseases.
- Safe, eco-friendly alternative to chemical fungicides.
- Suitable for wide crop range — cereals, vegetables, fruits, spices.

Market & Competitor Intelligence

- **Tricho-V (Multiplex):** Trichoderma viride 1.5% WP — 250–300/kg — Invictus advantage: higher CFU, enriched formulation.
- **Bio-Tricho (Anand Agro):** Trichoderma viride 1.0% — 220/kg — Invictus advantage: better stability & consistent CFU.

Invictus Advantage: Scientifically validated strain (IIHR-TV-5), higher CFU density, enriched carrier system, consistent field results.

Positioning & Sales Pitch Target Segment: Farmers growing vegetables, fruits, and commercial crops prone to wilt or root rot.

Dealer Pitch:

- Strong market demand for Trichoderma biofungicides.
- Validated strain ensures consistent field efficacy.
- 25–30% yield increase when combined with FYM.
- Long shelf life, proven performance, and repeat orders.

Farmer Pitch:

> "Invictus protects your crop from soil and root diseases naturally." "Improves root health, boosts yield, and keeps the soil alive." "Residue-free, organic-safe, and delivers visible results within 2–3 weeks."

Field Results & Research Validation

- **Trials:** Tomato, chilli, and cotton (AP & Telangana).
- **Results:** 25–35% disease reduction; 20–30% yield improvement.
- **Impact:** Stronger roots, healthier soil, reduced pathogen load after repeated use.
- **Certification:** Validated strain (IIHR-TV-5), residue-free, and eco-safe.

FAQs

Use Controls soil-borne fungal diseases (wilt, root rot, damping-off).

When to Apply Before sowing/transplanting.

Mixing Compatible with biofertilizers; avoid chemical fungicides.

Organic Status Certified residue-free and organic-compatible.

Visible Results 2–3 weeks after application.

Can I mix with chemicals? No, avoid mixing with chemical fertilizers or fungicides.

Regional Adaptation

- **Andhra Pradesh & Telangana:** Tomato, Chilli, Turmeric — prevents fungal infections during Kharif & Rabi.
- **Karnataka & Maharashtra:** Vegetables, pulses, horticultural crops — promotes soil microbial health.

Knowledge Base References

- Product Brochure / Label: Invictus PDF.
- Field Trials / Publications: AP & Telangana demos.
- Media: Field photos, demonstration videos.
- Marketing Collaterals: Posters, WhatsApp creatives.

Keywords for AI / Voice Agent "Soil-borne disease control", "Trichoderma viride biofungicide", "Root rot prevention organic product", "Residue-free biocontrol", "Rhizoctonia Fusarium Pythium control", "Eco-friendly fungicide alternative", "1 kg Trichoderma per acre", "Certified biocontrol product".

Extra Notes Common mistake: Mixing with chemical fungicides. Scientific validation: Uses IIHR-TV-5 strain (ITCC 6889) for reliability. Success: Farmers in Telangana and AP observed visible disease reduction and improved root vigor within 2–3 weeks.

6.4 Native Neem – A Novel Botanical Insecticide

Active Ingredient: Azadirachtin 300–10000 ppm

Target Pests: Sap-sucking insects (whitefly, greenfly, aphids, etc.), early-stage caterpillars.

Mode of Action: Anti-oviposition (disrupts egg-laying).

Anti-repellent & anti-growth regulation.

Digestive disruption in worms.

Variants & Dosage: Native Neem 300 ppm: 5 ml/liter water

Native Neem 10000 ppm: 1 ml/liter water

Application: Spray at first crop stage when pests expected.

Repeat every 15–20 days; increase frequency if infestation is high

6.5 TRAICORE – Plant Growth Regulator

Active Ingredient: Tricontanol (natural long-chain alcohol)

Benefits:

- Enhances photosynthesis, nutrient uptake, stress tolerance
- Promotes cell division, root development, flowering & fruit set
- Boosts yield, quality, and protein synthesis

Formulations & Dosage:

- TRIACORE EC 0.05% – 1 ml/L water
- TRIACORE EW 0.1% – 1 ml/L water
- TRIACORE GR 0.05% – granular, soil application

Application: Promotes growth, productivity, and quality across various crops

6.6 Pentazia – Advanced Biological Fungicide

Description: Protects plants from fungal diseases (powdery mildew, rust, blight)

Benefits:

- Powerful fungal control
- Provides vital nutrients
- Enhances disease resistance
- Environmentally safe

Dosage & Application: 5 ml/L water; spray once during waterlogging, once during flowering/fruiting/heavy harvest

Packaging: 250 ml, 500 ml, 1 Ltr

6.7 NEOLIFE – A Soil Health Revolution

Description: Biological product revitalizing soil health with beneficial microorganisms

Benefits:

- Effective disease control (root rot, damping-off)
- Enhances soil fertility (fixes N, P, K)
- Promotes plant growth, root development, productivity

Dosage & Application: 5 L/acre via drip irrigation

6.8 DFUSE – A Natural Solution for Larval Pests

Description: Microbial consortium targeting larval pests

Benefits:

- Efficient larval control
- Provides essential nutrients
- Improves soil health
- Eco-friendly

Dosage & Application: 5 ml DFUSE / 1 L water

6.9 DFNDR – A Natural Shield Against Sucking Pests

Description: Eco-friendly solution targeting sucking pests

Benefits:

- Effective pest control
- Promotes balanced plant growth & stress tolerance
- Safe for beneficial insects & pollinators

Dosage & Application: 5 ml DFNDR / 1 L water