



# Innovations in **Residue-Free** Regenerative Agriculture

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# Geolife is

A RESEARCH-DRIVEN COMPANY PIONEERING THE DEVELOPMENT OF ADVANCED, SUSTAINABLE AGRICULTURAL INPUTS USING PROPRIETARY TECHNOLOGIES. WE COLLABORATE WITH GLOBAL FORMULATORS TO DELIVER TAILORED SOLUTIONS THAT ADDRESS SPECIFIC CROP AND REGIONAL NEEDS, WITH A STRONG FOCUS ON REGENERATIVE AGRICULTURE AND RESIDUE-FREE INNOVATIONS.



WE OFFER END-TO-END CONTRACT DEVELOPMENT AND MANUFACTURING SERVICES FOR FERMENTATION-BASED PRODUCTS—FROM STRAIN DEVELOPMENT AND PROCESS OPTIMIZATION TO LARGE-SCALE PRODUCTION. OUR EXPERTISE IN MICROBIAL STRAIN ENGINEERING AND ADVANCED FERMENTATION TECHNOLOGIES ENABLES US TO DELIVER HIGH-QUALITY, COST-EFFECTIVE SOLUTIONS FOR BIOAGRICULTURAL COMPOUNDS.





**Geolife is at the forefront of a revolution in agriculture, pioneering the shift from Chemical-Intensive farming to Nutrition-Sensitive farming.**

By providing innovative and natural solutions such as **biofertilizers, biostimulants, water-soluble fertilizers, soil conditioners, crop protection, and biopesticides**, Geolife empowers farmers to cultivate healthier crops, improve yields, and ensure long-term sustainability. With a mission to deliver **poison-free nutrition** and foster a **healthier planet** – Geolife’s cutting-edge technology, rooted in nature, is transforming farming practices and creating a brighter future for farmers and consumers alike.

## Our Purpose

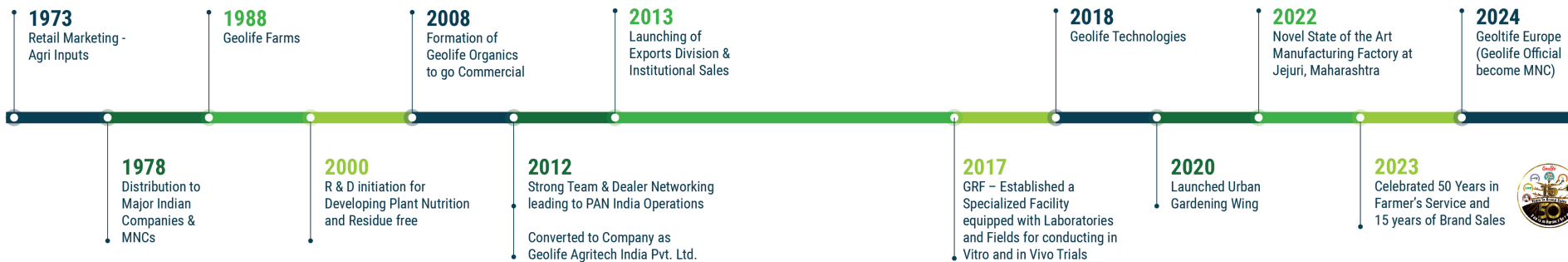
Empowering farmers with natural solutions for **sustainable, poison-free agriculture** and **healthier communities**.

## Our Vision

To empower agricultural brands and formulators worldwide with cutting-edge, efficient, and sustainable input solutions that drive the future of farming.



## Milestones IN 52 YEARS OF OUR INCREDIBLE JOURNEY



# End-to-End Manufacturing

*From Lab Innovation to Global-Scale Production*

Geolife has a state-of-the-art manufacturing infrastructure designed for seamless scalability, enabling a smooth transition from laboratory research to full-scale commercial production across all product categories. This robust plant empowers Geolife to support **custom formulations, private label solutions, and B2B manufacturing** – from small-scale innovation to large-volume global supply.



STATE-OF-THE-ART

## RESEARCH AND MANUFACTURING HUB FOR NEXT-GEN AGRICULTURAL SOLUTIONS

In 2022, Geolife established its cutting-edge manufacturing hub, registered under the Ministry of Agriculture and Farmers Welfare, to meet the rising global demand for sustainable agricultural solutions. This state-of-the-art facility focuses on producing innovative, nature-inspired inputs like biofertilizers, biostimulants, and residue free crop protection, empowering farmers with eco-friendly solutions to achieve healthier yields and long-term sustainability.

TOTAL AREA: 4,80,000 SQ.FT

### LOCATION

GAT No. 648, Lavahalwadi, Village Kolvihire, Jejuri  
Morgaon Road Tal: Purandar Pune 412 303 Maharashtra  
– INDIA



### FACILITY OVERVIEW

Main Production Unit: **Spanning 70,000 square feet, the unit is optimized for large-scale, efficient manufacturing.**

Granulation Unit: **A dedicated 12,000-square-foot facility focused on precision granulation processes.**

State-of-the-Art Fermentation Facility: **Fully automated and designed for high-quality microbial production.**

### ADVANCE PACKAGING FACILITY

Tailored for powder, granular, and liquid packaging with cutting-edge technology ensuring efficiency and quality.

Geolife's manufacturing facility integrates the expertise of **AGROTECHNOLOGISTS, BOTANISTS, MICROBIOLOGISTS, TECHNICIANS, CHEMISTS** and **PRODUCTION ENGINEERS** working collaboratively across specialized areas to deliver breakthrough solutions:

### SPECIALIZED FACILITIES

#### Clean Room and Biotech Lab Facilities:

- A 6,000-square-foot dedicated space for advanced research and lab-scale production of bacterial and fungal strains.
- Unique microbial derivatives extraction with a focus on innovation and efficacy.

#### Advanced and Well equipped Analytical Laboratory:

- A 1,500-square-foot space equipped with sophisticated instrumentation for comprehensive quality control and research.

#### Botanical Extract Development – Vruksh Ayurveda:

- Specialized facility for extraction, formulation development, and stability testing, guided by the principles of Vruksh Ayurveda, ensuring the creation of innovative, nature-inspired botanical solutions.



# Certifications

# University Trials

Geolife Has Performed Trials All Over the Country with Top & Reputed Universities of India and Leading Research Agencies to Check The Efficiency of the Products

## Product Certifications:



"Approved Input for use in organic agriculture according to **NPOP** standard attested by **Ecocert India Pvt. Ltd. (NPOP/NAB/002)**"

## Company Certification:





## Lab-Scale to Pilot Batch (R&D & QC)

- **Dedicated Chemistry & Microbiology Labs** for nutrient and microbial testing.
- **Over 2,000 microbial strains** screened and developed for commercial application.
- **HPLC, AAS, Spectrophotometry** and other high-end instruments ensure quality control and formulation consistency.
- **In-house R&D** for constant formulation improvement and pilot-scale testing.



## Liquid Formulation Lines

- Automated filling lines for **soluble, suspension, and straight liquids**.
- Flexible packaging: **100 ml to 1 L** (Automatic & Semi-Automatic).
- **High** production capacity with fully automatic filling line consisting WAD sealing, capping, labeling & final packing.



## Biotech Scale-Up Facility

- **Fully automatic PLC-SCADA-based fermentation system**.
- **Total fermentation capacity of 2 lakh liters/month**.
- **Complete harvesting setup:** Inline centrifuge, spray dryer, lyophilizer.
- **Sterile filling lines** and **CIP system** ensure high biosafety and process hygiene.
- Designed for 24/7 continuous microbial production, from pilot to industrial scale.



## Solid Formulation and Production Unit

- FFS packaging lines for **powder, granules, and solid inputs**.
- **Production of:**
  - **Multimicronutrient Fertilizers** –
  - **Water-soluble & Biostimulants** –
  - **Performance Enhancers** –
- Packaging: From **1 gm sachets to 4 kg bulk packs**, auto & semi-auto systems.



## Granule-Based Bulk Scale Production

- Dedicated **Granulation Factory** with **High/day capacity**.
- Solar drying systems enhance **eco-sustainability** of large-scale operations.
- Focused on **Biofertilizers, Secondary Nutrients, Biostimulants**.

## Support Infrastructure

- In-house **RO water system** (3,000 L/hr) for mineral-grade purity in formulations.
- Separate **Raw Material and Packaging Material Stores** for organized and hygienic operations.
- **Finished Goods Zone** with dock stations and handling systems for smooth dispatch.



## Regulatory Support – With Technical Dossiers

Our team offers full regulatory assistance, supplying validated technical dossiers and composition data to facilitate product registration in compliance with EU, LATAM, and other international agricultural standards. This includes CoA, MSDS, label inputs, formulation specs, and origin traceability.

## White Label Services – Under Your Brand

Geolife provides end-to-end white label solutions, allowing you to market high-quality agri-input products under your own brand. From formulation development and custom packaging to regulatory support and global compliance, we ensure a seamless and confidential partnership tailored to your market needs.



# GEOLIFE RESEARCH FARM

*Geolife's Research Farm (GRF) is a state-of-the-art research facility dedicated to pioneering agricultural advancements through innovative research and testing. It blends world-class infrastructure with a commitment to sustainability, empowering global farming practices with cutting-edge solutions.*



## COMPREHENSIVE IN-VITRO & IN-VIVO TESTING FACILITIES

*The Geolife Research Farm is equipped with sophisticated laboratories and testing setups to ensure precise and reliable results:*

- **PATHOLOGY LAB:** Advanced diagnostics for plant health and disease management.
- **ENTOMOLOGY LAB:** Specialized research into pest control and insect behavior.
- **SEED TRIALS:** Rigorous evaluation of seed performance under various conditions.
- **POT CULTURE TRIALS:** Controlled experiments for plant growth and nutrition.
- **PEST AND DISEASE TRIALS:** Targeted testing to develop effective protection strategies.
- **GROWTH AND NUTRITION TRIALS:** Comprehensive assessments of plant vitality and nutrient uptake.
- **HYDROPONIC TRIAL SECTION:** Exploring soilless cultivation techniques to enhance yield and resource efficiency.



Product Trials Flow at Geolife Research Farm

In Vitro Trials → Pot Culture Trials → GRF Field Trials → Multilocation Trials in Farmers' Fields

# ADVANCING EXCELLENCE IN AGRICULTURAL RESEARCH

## Collaborative Field Research and Multi-Location Trials A DEDICATED TEAM OF AGRICULTURISTS CONDUCT LARGE-SCALE FARMER PLOT TRIALS.

A dedicated team of expert agriculturists conducts large-scale farmer plot trials, ensuring solutions are thoroughly tested under real-world conditions. GRF collaborates with Geolife's national network to execute multi-field trials across India, generating robust efficacy data to support innovation and scalability.

### PRODUCT PORTFOLIO BACKED BY RESEARCH AND DEVELOPMENT

- Biofertilizers –
- Nanotechnology-Based Nutrients –
- Botanical Extract-Based Products –
- Biostimulants –
- Performance Enhancers –
- Soil Health Enhancers –
- Residue-Free Liquid Fertilizers –
- Residue free antipathogens and pesticides –
- Microbial Extract-Based Biostimulants –
- Biopesticides –

### COMMITMENT TO SUSTAINABILITY AND INNOVATION

Geolife seamlessly integrates cutting-edge technology with eco-conscious practices, driving agricultural progress while minimizing environmental impact. By reducing dependence on chemical inputs and focusing on sustainable productivity, Geolife empowers farmers to achieve exceptional results with a positive global impact.

The Geolife Research Farm is more than just a testing ground—it is a beacon of progress, combining science, innovation, and sustainability to redefine global agriculture.



In Vitro Trials



Pot Culture Trials



Grf Field Trials



### Multilocation Trials in Farmers' Fields

Location: Geolife Reserech Farm, Phursungi, Pune-512308, Maharashtra, India

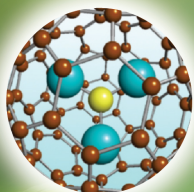
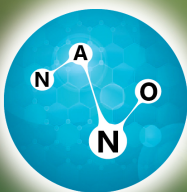
# OUR TECHNOLOGIES

Continuous **Research and Development** are at the core of Geolife's innovations. To support this, the company has Well-equipped **Laboratories and Lab-scale Production Facilities**.

## GEOLIFE WORKS ON **FOUR LARGE TECHNOLOGY** PLATFORMS:

- Nano Technology (NGNT)
- Botanical Extraction Technology (BET)
- Encapsulated Live Microbes (ELM)
- Microbial Extract Technology (MET)

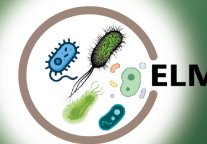
### NANO TECHNOLOGY



VRUKSHA  
AYURVEDA BASED  
BOTANICAL  
EXTRACTION  
TECHNOLOGY



ENCAPSULATED  
LIVE  
MICROBES



MICROBIAL  
EXTRACT  
TECHNOLOGY



### Geolife Technological and R&D Pathway

EXTRACTION → ISOLATION → FORMULATION → GRF TRIALS →  
MULTI-LOCATION & UNIVERSITY TRIALS → REGISTRATION → COMMERCIALIZATION

## Nano Technology



- **Geolife's Nano products** feature a unique nutrient formulation powered by our proprietary **Microbial Extract Technology (MET)**. MET plays a crucial role in enhancing nutrient bioavailability.
- It infuses organic molecules from microbial extracts with **nutrient molecules**, promoting efficient absorption by plants. By incorporating these **microbial extracts**, we enhance **nutrient availability, stability, and targeted delivery**.
- **Geolife's Nano technology** enables outstanding product efficacy, allowing for reduced or minimal dosages without compromising performance.

## Biotechnology - Encapsulated Live Microbes



- The Geolife research team **Isolates Beneficial Bacteria** from various environments and uses **DNA sequencing** to identify their genetic structures.
- This enables the development of effective **Biofertilizers** and **Pesticides**, serving as eco-friendly alternatives to chemical fertilizers and pesticides.
- By leveraging Biotechnology—these formulations are tailored to specific crops and **Soil Conditions, Enhancing Sustainability and Agricultural Productivity**.
- At Geolife, we prioritize **Encapsulation Technology** to improve the efficacy and shelf life of **Microbes, Enabling Stable Consortia** formulations with consistent field results.

## Botanical Extract Technology



- **Ayurveda**, is a measure for **nutrition, disease prevention, diagnosis, and treatment**.
- Rooted in, an ancient one-health framework that integrates **plant, animal, and human health**.
- **Vruksha Ayurveda** has paved the way for the development of formulations for crop-protection using **Botanical Extract Consortium**.



THE SACRED  
BASIL



RICINUS  
COMMUNIS



EVOLVULUS  
ALSINOIDES



BAUHINIA  
RACEMOSA



CRAB  
APPLE



ACHYRANTHES  
ASPERA



EMBELIA  
RIBES



BASELLA  
RUBRA



AZADIRACHTA  
INDICA



CURCUMA  
LONGA

## Biotechnology - Microbial Extract Technology



- It involves isolating **Unique Microbial Strains** from diverse habitats in a specialized medium for completing the growth cycle.
- A series of intricate processes are employed to extract **Valuable Metabolites**, such as **Enzymes and Amino Acids**, from the microbes.
- **Microbial Enzymes**, recognized as potent biocatalysts, are then coupled with concentrated form ensuring efficiency and rapid action.

### Process of Microbial Extract Technology



# NanoTechnology

## Precision Farming with Nano Power



Geolife's Nano products feature a unique nutrient formulation powered by our proprietary **Microbial Extract Technology (MET)**. MET plays a crucial role in enhancing nutrient bioavailability.

It infuses organic molecules from microbial extracts with nutrient molecules, promoting efficient absorption by plants. By incorporating these microbial extracts, we enhance nutrient availability, stability, and targeted delivery.

Geolife's Nano technology enables outstanding product efficacy, allowing for reduced or minimal dosages without compromising performance.

### Technology Highlights

- **Nano-Sized Nutrients:** Extremely small particle size increases surface area, enhancing absorption into plant tissues.
- **Microbial Extract Technology (MET):**
  - Organic molecules from microbial extracts bind with nutrients.
  - Boosts bioavailability, stability, and targeted delivery within plants.

### Core Benefits

- **Faster Action:** Quick nutrient absorption and visible plant response.
- **Lower Dosage:** High efficiency means minimal application is sufficient.
- **Low Residue:** Eco-friendly with minimal leftover impact on crops or soil.
- **Cost-Effective:** Reduced inputs without sacrificing performance.
- **Compatible:** Works with all crops and can be integrated into existing farming systems.

### Application Perspective

- Ideal for foliar sprays, fertigation, and soil application.
- **Suitable for all crop stages**—from seedling to fruiting.

### Sustainability

- Supports regenerative and climate-smart agriculture.
- Reduces nutrient wastage and environmental runoff.



# Nano Technology based products

Enhanced Nutrient Uptake and Bioavailability

Lower Application Dosages

Environmentally Safe, Residue-Free Technology

## Nano Fert Series

### Industrial Grade Nano NPK Input

Developed using **NGNT (Next Generation Nano Technology)** for agri-input manufacturers. Each grade delivers NPK with micronutrients and microbial extracts for **high-performance, fast-acting fertilizers** (foliar, fertigation, custom blends).

#### Mode of Action

- **Nano-Formulation:** High surface area enables quick and efficient absorption of nutrients
- **Translocation:** Quicker systemic movement through phloem/xylem
- **Biological Synergy:** Boosts rhizosphere activity and enzymatic conversion
- **Metabolic Enhancement:** Increases photosynthesis, protein biosynthesis
- **Abiotic Stress Tolerance:** Enhances defense pathways and antioxidant enzyme production

#### Industrial Benefits

- Formulation base for **foliar, fertigation, and WSF**
- **Microbial Extract Fortification** improves nutrient use efficiency
- **Chloride-Free & Clean** for sensitive crops
- **Low Inclusion Rate:** Only 20% of traditional WSF
- **Customizable Grades** (e.g., Vegetative, Flowering, Fruiting, Post Bloom)

#### Compatibility

- Compatible with most **biostimulants, micronutrients, PG regulators, humic/fulvic acids, microbial inputs**
- Stable in wide **pH ranges** for **commercial foliar/fertigation**

#### Target Crops

- Field crops (cereals, pulses, oilseeds)
- Fruits, vegetables, protected crops, ornamentals

#### Technical Dosage (for Formulators/Blenders):

- **Base Dose Reference:** 500 gm per hectare.

PRODUCT NAME	NPK COMPOSITION	RECOMMENDED STAGE	FORM
Nanofert 19:19:19	N:P:K – 19:19:19	Vegetative Stage	Powder
Nanofert 17:44:00	N:P:K – 17:44:00	Flower Initiation Stage	Powder
Nanofert 13:00:45	N:P:K – 13:00:45	Fruiting Stage	Powder
Nanofert 00:52:34	N:P:K – 00:52:34	Post Bloom / Grain Fill	Powder

## Nanomeal Series

### Stage-Specific Nano Nutrition Formulations

Tailored nutrition using **NGNT & MET technology**, available for: **Start, Nexus, Grow, Bloom, Flora, Berry, Fruition, Nourish**

#### Mode of Action

- Nano nutrients penetrate foliar tissues instantly
- Enriched with microbial extracts
- Promotes **enzyme activity, biosynthesis, and stress resilience**
- Provides **stage-specific nutrient supply**

#### Industrial Formulation Benefits

- Combines **macro & micro nutrients:** N, P, K, Mg, Fe, Zn, B, Cu, S, Ca, Mo
- Pre-balanced, **customizable**, clean and chloride-free
- Compatible with tank mix, foliar, fertigation
- Ideal base for **branded formulations**

#### Application Reference Dosage (for Blenders/Formulators):

- **Foliar:** 250 gm/acre (625 gm/hectare).
- **Custom blends available** as per client-specific formulation ratios.

NANOMEAL SERIES	N	P	K	Ca	Mg	Fe	Mn	Zn	Mo	B	Cu	S
START	14	50	-	36	-	1	1	-	0.02	0.2	-	-
NEXUS	24	42	-	40	2	-	1	1	-	0.8	-	-
GROW	10	40	40	10	-	-	-	-	-	0.2	-	-
BLOOM	13	14	25	2	2	1	0.02	0.2	1	1	-	-
FLORA	-	-	50	-	-	-	-	-	-	-	-	-
BERRY	10	-	-	-	-	1	1	-	-	-	-	-
FRUITION	14	25	-	-	-	1	1	-	-	-	-	-
NOURISH	10	10	25	-	-	1	1	-	0.4	-	-	-



## Nano Micronutrients

### Precision Micro Element Correctors

The **Nano Micronutrients** line features single and **Multi-Micronutrient Formulations** with **NGNT & MET** technology for high bioavailability, rapid correction of deficiencies, and enhanced compatibility with foliar and fertigation programs.

#### Benefits for Formulators

- **Pre-stabilized nano forms** of Fe, Zn, Mg, Ca, B
- Highly dispersible and water-soluble
- Efficient at **low inclusion** levels
- **No precipitation or sedimentation** in tank mixes
- Ideal for high-performance **liquid or WSF** micronutrient correctors

#### Application Reference Dosage:

- **Micronutrient Line:** 50 gm per acre (125 gm per hectare)
- **Available in customized** strengths and bulk pack sizes for industrial use

PRODUCT NAME	COMPOSITION	APPLICATION STAGE
Natural CAB	Ca – 22%, B – 3.8%	Fruit setting, flowering
Balance Nano	Specific nutrition mix + MET	Flowering stage
Balance Nutri	Mixed micronutrient blend ((Zn-6% + Fe-6% + Mn-5% + Cu-1% + B-2% + Mo-0.1%))	Broad-spectrum correction

## Nano Humic

### Industrial Grade Humic Acid Biostimulant

Nano Humic is a high-efficiency biostimulant developed using **NGNT (Next Generation Nano Technology)** and **MET (Microbial Extract Technology)**. It delivers humic acid in nano form, ensuring faster nutrient chelation, soil structure improvement, and enhanced root development.

#### Mode of Action

- **Chelation:** Binds with soil micronutrients, forming stable chelates that improve nutrient availability
- **Soil Health:** Enhances soil aggregation, water infiltration, and acts as a buffer to stabilize pH
- **Plant Growth Regulation:** Mimics phytohormones such as auxins to promote cell division and root growth
- **Stress Mitigation:** Improves plant tolerance to abiotic stresses like drought or salinity by enhancing nutrient and water uptake

#### Industrial Benefits

- Highly soluble nano-humic acid for liquid or **WSF** formulations
- Suitable for use in **biostimulants, soil conditioners, and rooting enhancers**
- Improves **microbial activity** and **cation exchange capacity (CEC)**
- **Enhances nutrient** uptake in blended products
- Compatible with a wide range of **bio-inputs** including **amino acids** and **seaweed extracts**

#### Compatibility

- Water-soluble **fertilizers, biostimulants, amino acids, humic/fulvic acids, microbial** inputs.

#### Application & Dosage (for Formulators):

- **Foliar:** 50 gm per acre (125 gm per hectare)
- **Soil Application:** 100–150 gm per acre (250–375 gm per hectare)

## Nano Aminos

### Industrial Grade Amino Acid Biostimulant

**Nano Aminos** is a nano-delivered amino acid complex developed with **NGNT** and **MET** platforms. It acts as a key input for agri-input manufacturers aiming to **Enhance Crop Performance, Protein Synthesis, and Plant Stress Tolerance.**

#### Mode of Action

- **Biomolecule Synthesis:** Enhances synthesis of proteins, enzymes, and growth regulators
- **Enzyme Activation:** Boosts metabolic reactions at the cellular level
- **Signal Molecules:** Regulates plant processes such as flowering, root growth, and stress response
- **Nitrogen Source:** Provides readily available organic nitrogen for sustained growth
- **Stress Tolerance:** Functions as an osmoprotectant, protecting cell membranes under stress conditions

#### Industrial Benefits

- Ideal input for advanced biostimulant and nutrient formulations
- Increases efficiency of foliar sprays and fertigation blends
- Enhances resistance to abiotic stress and improves crop resilience
- Suitable for custom blends targeting flowering, fruiting, and yield stages
- High compatibility with other biostimulants, micronutrients, and biofertilizers

#### Compatibility

- Fully compatible with **seaweed extract, micronutrients, humic acids, water-soluble fertilizers,** and **microbial formulations**

#### Application & Dosage (for Formulators):

- **Foliar:** 50 gm per acre (125 gm per hectare)
- **Soil Application:** 100–150 gm per acre (250–375 gm per hectare)

## Nano Seaweed

### Industrial Grade Seaweed Biostimulant

**Nano Seaweed** is a high-performance biostimulant developed with **NGNT** and **Met Technologies**. Extracted from carefully selected natural seaweed, it offers concentrated bioactive compounds to promote plant growth, root development, and stress resistance.

#### Mode of Action

- **Nutrient Uptake:** Enhances activity of beneficial soil microbes, improving nutrient absorption
- **Plant Growth Enhancement:** Supplies biomolecules that stimulate cell elongation and division
- **Stress Resistance:** Modulates stress responses, helping plants cope with salinity, heat, and drought
- **Antioxidant Activity:** Provides protection against oxidative stress via natural antioxidants
- **Soil Conditioning:** Improves water retention and aeration, supporting healthier root zones

#### Industrial Benefits

- High-quality source from **sustainably harvested seaweed**
- Advanced processing ensures high potency and consistency
- Enhances **microbial colonization** and **root vigor**
- Delivers biostimulant effects for **improved yield, stress tolerance, and biomass**
- Suitable for use in foliar, drip, or fertigation formulations

#### Compatibility

- Compatible with **amino acids, humic/fulvic acids, micronutrients, WSFs,** and **microbial** products

#### Application & Dosage (for Formulators):

- **Foliar:** 50 gm per acre (125 gm per hectare)
- **Soil Application:** 100–150 gm per acre (250–375 gm per hectare)

## Flowering

### Technical Premix

A special mix that **accelerates flower growth** with eco-friendly ingredients, enhancing blooms for crops and decorative plants. An easy-to-use, effective solution for promoting **better and increased flower growth**.

#### Mode of Action

- **Stimulates DNA/RNA** synthesis for overall plant growth.
- Facilitates methyl group transfer for **critical biochemical reactions** and **influences flowering time** and **phytohormone modulation**.
- Impacts the transition to reproductive growth by regulating gene expression associated with flowering.

#### Composition

- Combination of **Proline & Pyridoxine HCl**

#### Compatibility

- Compatible with **water-soluble fertilizers, organic pesticides, herbicides, biostimulants, biofertilizers, and biopesticides.**

#### Crops:

- **Suitable for all crops** – field crops, fruits, vegetables, and ornamental plants.
- **Recommended Dose:** 5 gm per acre or 12.5 gm per hectare.

## Fruiting

### Technical Premix

A catalyst for plant protein synthesis and ethylene production, promoting growth, gene regulation, and stress response. Supports **DNA methylation**, secondary metabolite biosynthesis, glycolysis, and carbohydrate metabolism for enhanced crop vitality.

#### Mode of Action

- Initiates **protein synthesis**
- Aids in **ethylene production**
- Influences **gene regulation and epigenetics**
- Supports secondary metabolite production and energy metabolism

#### Composition

- **Combination of Methionine & Thiamine HCl**

#### Compatibility

- Compatible with **water-soluble fertilizers, organic pesticides, herbicides, biostimulants, biofertilizers, and biopesticides.**

#### Crops:

- **Applicable for all crops** – field crops, fruits, vegetables, and ornamental plants.
- **Recommended Dose:** 5 gm per acre or 12.5 gm per hectare

## Nano Silicon

**Immunity Enhancer**  
with *Ortho Silicic Acid*

**Stronger**  
**Plants**

**Higher**  
**Resistance**

#### Mode of Action

- **Immunity Signaling:** Stimulates phytoalexin production—natural antimicrobial compounds that protect against pests & pathogens.
- **Cell Wall Fortification:** Deposits silica in plant cell walls, creating a physical barrier to reduce insect feeding and pathogen entry.
- **Lodging Resistance:** Strengthens plant structure, helping prevent bending and collapse in cereals and tall crops.

#### Industrial Benefits

- **Boosts Plant Immunity:** Protects crops from biotic stress like insects and diseases.
- **Reduces Pest Damage:** Tougher tissues deter chewing and sucking pests.
- **Prevents Lodging:** Enhances structural rigidity for better field performance.
- **Wide Compatibility:** Suitable for cereals, vegetables, fruits, sugarcane, and field crops.
- **Supports Higher Yields:** Promotes healthier, more resilient plants.

#### Composition

- **Ortho Silicic Acid**
- Powered by **Microbial Extract Technology (MET)**

#### Application & Dosage :

- **Foliar Spray:**
  - Solo Application: 5 ml/L
  - With Insecticide: 3 ml/L
  - (Tank-mix with suitable insecticides for enhanced pest control)
- **Ideal for Integrated Pest Management and Stress-Resilient Farming**
  - Let me know if you'd like a design mockup or printable version of this for your brochure.

#### Crops:

- Field Crops, Cereals, Sugarcane, Vegetables, Fruits, Pulses, and Oilseeds

Can be used as a base material for the development of customized formulations

# Vruksha Ayurveda



## Ayurvedic Wisdom Meets Modern Agriculture

**Geolife's Botanical Extract Technology (BET)** is a pioneering initiative that leverages the ancient knowledge of **Vruksha Ayurveda** to develop powerful, eco-friendly crop protection and nutrition solutions. Rooted in Ayurveda—the traditional Indian science of life—Vruksha Ayurveda extends the same principles of balance, immunity, and healing to plant life.

### What is Vruksha Ayurveda?

Vruksha Ayurveda is the application of Ayurvedic concepts to plant care. It focuses on:

- Preventive crop health through natural strengthening
- Natural immunity boosting against biotic and abiotic stress
- Residue-free, sustainable protection using botanical actives

This holistic approach integrates **plant, soil, and ecological health**, using time-tested herbal remedies to enhance crop vitality and resilience—without synthetic chemicals.

### What We Offer

Geolife produces high-quality agricultural inputs using select botanical extracts and essential oils, formulated under our **BET** platform. These actives are processed using advanced, **residue-free extraction** techniques to ensure potency, stability, and compatibility in industrial formulations.



# based products



Botanical Extraction Technology



Category	Product List
<b>CATEGORY I</b> Standardized Plant Extracts	Black Pepper Extract (Piperine 95%) Cassia Extract Clove Extract Curcumin Garlic Extract Ginger Extract Lutein (All Grades) Marigold Extract Rosemary Extract Thyme Extract
<b>CATEGORY II</b> Essential Oils	Aniseed Oil Basil Oil Cedarwood Oil Cinnamon Bark Oil Citronella Oil Clove Bud Oil Clove Leaf Oil Garlic Oil Lavender Oil Lemongrass Oil Marjoram Oil Oregano Oil Peppermint Oil Rosemary Oil Tea Tree Oil Thyme Oil Turmeric Oil

Category	Product List
	Alpha Pinene Anethole Beta Pinene Cadinene, Biso Bolene Camphene Camphor Carvacrol Carvone Caryophyllene Oxide Cinnamic Aldehyde Citral Delta 3 Carene Eucalyptol Eugenol Gamma Terpinene Geraniol L-Menthol Limonene Linalol Mentha Piperita Oil Myrcene Methyl Chavicol Para Cymene Terpinene 4 OL Terpinolene Thymol (Natural & Synthetic) Beta Caryophyllene / Caryophyllene Oxide Sabinene
<b>CATEGORY III</b> Aromatic Compounds and Actives	



## Consortia of Botanical Extract for Fruit Growth & Quality

Botanical Extract | Organic-Based | Fruit Size Enhancer | Nutrient Uptake Booster

### Mode of Action

- **Cell Division & Elongation:** Seaweed extracts stimulate cytokinin-like activity, promoting larger fruit size and weight.
- **Bioactive Compounds:** Rich in phenolics, antioxidants, and marine nutrients to stimulate growth at the cellular level.
- **Enhanced Nutrient Mobility:** Improves phloem and xylem efficiency for optimized transport during critical fruiting stages.
- **Improved Photosynthesis:** Increases chlorophyll content and nutrient uptake, boosting productivity.
- **Stress Mitigation:** Supports post-harvest resilience and metabolic balance under stress conditions.

### Industrial Benefits

- Promotes **vigorous vegetative growth** and significant fruit enlargement
- Enhances uniformity in **fruit color, texture, and flavour**
- Extends **post-harvest shelf life** and fruit firmness
- Boosts reproductive efficiency and plant vigor
- Maximizes **nutrient uptake** and **photosynthetic performance**

### Best Fit For

- Fruit growers aiming for improved size, color, and taste consistency
- Export-oriented farms requiring uniformity and extended shelf life
- Organic & sustainable farming systems seeking natural growth enhancers
- Commercial orchards & contract farming operations focused on high yield and quality
- Crop consultants & agri-input distributors promoting performance-based nutrition solutions

### Recommended Dose:

- 1.25 liter per hectare.

Can be used as a base material for the development of customized formulations

## Consortia of Botanical Extract for Viral Protection

Viral Protection for Crops | Organic | Systemic | Industrial-Grade

Powerful plant-based antiviral that blocks **virus entry, halts replication, and boosts crop immunity**—ideal for sustainable, residue-free farming.

### Mode of Action

- Prevents virus entry into plant cells
- Disrupts virus multiplication
- Neutralizes harmful free radicals
- Activates systemic plant immunity (SAR)
- Inhibits vector-borne virus spread

### Industrial Benefits

- Controls viruses like **Mosaic, Leaf Curl, YVM, Tristeza**
- Disease control proven in field trials
- **Safe, non-toxic & eco-friendly**
- Suitable for all major crops
- Compatible with agrochemicals

### Composition

- Herbal Extracts (Proprietary Blend)
- Bioactive Antiviral Compounds
- Natural Antioxidants
- **Form:** Liquid (Effervescent tablet also available)

### Ideal For

- Organic & residue-free farming
- IPM programs
- Agro-input distributors & bulk buyers

### Recommended Dose:

- 3–5 ml per liter of water.



# Encapsulated Live Microbes Technology based products



**Geolife's Live Microbes Encapsulation Technology** is a breakthrough innovation designed to protect, preserve, and deliver beneficial microorganisms effectively to the soil and plant environment.

Using advanced bio-polymer encapsulation, live microbial strains are embedded within protective microcapsules that:

#### Extend shelf life

and maintain high microbial viability until application.

#### Enable targeted release

in the rhizosphere, where microbes become active and colonize effectively.

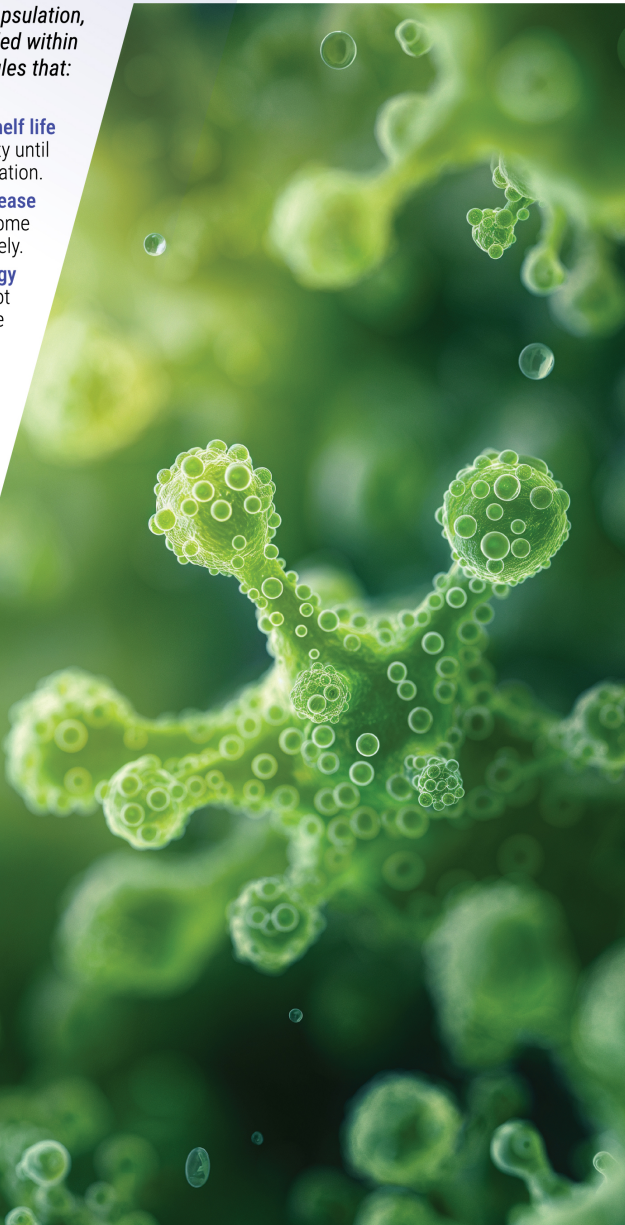
#### Enhance soil biology

by promoting nutrient cycling, root development, and natural disease suppression.

This technology ensures **maximum survivability and field performance** of microbial products, delivering consistent results in varying climatic and soil conditions.

#### Key Benefits:

- Stable & Long Shelf Life
- Controlled, Targeted Release
- High Microbial Count at Application
- Effective Colonization and Action in Soil



## Rhizospheric Microbial Concentrate Biofertilizer

It is a biofertilizer concentrate containing a consortium of **24 bacterial cultures**, which are as follows:

- Nitrogen-fixing bacteria
- Phosphate-solubilizing bacteria (PSB)
- Potassium-solubilizing bacteria (KSB)
- Mineral-solubilizing microbes
- Sulfur-oxidizing bacteria
- Silicate-solubilizing bacteria
- Zinc-solubilizing bacteria (ZnSB)
- Mn-reducing/oxidizing microbes
- Siderophore-producing microbes
- Boron-mobilizing/solubilizing microbes
- Mo-mobilizing microbes or PSB

#### Composition

- Single microbe or customized microbial consortium concentrate up to 24 microbes
- Can be provided with concentration – min. 100 billion per gm/ml (Customization Possible)

#### Compatibility

- Compatible with organic fertilizers, organic pesticides, biostimulant and biofertilizers

#### Crops:

- Applicable for all field crops, fruits, vegetables, and ornamental plants.
- **Note:** Available in **powder and liquid formulation**

#### Application & Dosage (for Formulators):

- 1 gm per acre or 2.5 gm per hectare

## Endophytic Microbial Concentrate Biofertilizer

11-endophytic bacterial blend (**6 Bacillus Spp., 5 Pseudomonas Spp.**) residing in plants, enhancing growth, nutrient absorption, and immunity by secreting enzymes, metabolites, and growth hormones for increased yield and stress resilience.

#### Mode of Action

- Colonizing plant tissue, these bacteria facilitate:
- N<sub>2</sub> fixation
  - Hormone production
  - Nutrient solubilization
  - Pathogen resistance induction (via ammonia, hydrogen cyanide, enzymes)
  - Immune system boost through heightened metabolic rates and enzyme secretion

#### Compatibility

- Compatible with water-soluble fertilizers, organic pesticides, biostimulants, biofertilizers, and biopesticides.

#### Crops:

- Applicable for all field crops, fruits, vegetables, and ornamental plants.

#### Composition

- Microbial consortium of 11 Endophytes
- min. 10 x 10<sup>9</sup> CFU per gm

#### Recommended Dose:

- 1 gm per acre or 2.5 gm per hectare.



## Mycorrhiza Concentrate

A consortium of four Mycorrhiza spp. fosters mutualistic symbiosis, bolstering nutrient uptake in plant roots for robust soil adaptation.

### Mode of Action

- Spores germinate and colonize root system
- Accelerates nitrogen metabolism
- Promotes root & shoot growth
- Forms arbuscules and Hartig network
- Covers root zone to absorb and mobilize nutrients & moisture
- **33,000 spores/gm**
- **>1800 IP/gm infectivity potential**
- **100,000 propagules/gm**

### Compatibility

- Compatible with water-soluble fertilizers, organic pesticides, biostimulants, biofertilizers, and biopesticides.

### Crops:

- Applicable for all crops – field crops, fruits, vegetables, ornamental plants.

### Recommended Dose:

- 1 gm per acre or 2.5 gm per hectare.



## Biopesticides

**Microbial Biopesticides** are natural products made from microorganisms like **bacteria, fungi, or viruses** that control pests and diseases in crops. These biopesticides target specific pests while being safe for **humans, animals, and beneficial insects**. They offer an eco-friendly, sustainable solution to pest management in agriculture.



## Microbial Biopesticides Concentrate

### Microbial Strains and Functions:

- **Trichoderma Viride:** Parasites the mycelia and fruiting bodies of soil-borne fungal diseases.
- **Trichoderma Harzianum:** Causes hyperparasitism or antibiosis, restricting soil phytopathogens including nematodes.
- **Metarhizium Anisopliae:** Produces adhesins and penetrates insect cuticle, resulting in ultimate death.
- **Beauveria Bassiana:** Produces extracellular hydrolytic enzymes that penetrate insect integument and crumble the host immune system.
- **Ampelomyces Quisqualis:** Parasitizes powdery mildew and actively destroys powdery mildew fungus.
- **Bacillus Subtilis:** Secretes secondary metabolites, cell wall-degrading enzymes, and antioxidants to control pathogens.
- **Bacillus Firmus:** Acts as nematode antagonist and induces plant systemic resistance.
- **Pseudomonas Fluorescens:** Produces iron-chelating antibiotics and siderophores to control fungal pathogens.
- **Verticillium Lecanii or Lecanicillium Lecanii:** Causes mycosis in insects and secretes extracellular enzymes to control insect pests; this sticky fungus invades their bodies, consumes internal organs, and ultimately leads to their death.

### Concentration

- **Minimum 100 billion per ml or gm.**
- **Note:** Customized formulations available in **Aqueous Solution (AS)** and **Soluble Powder (SP)**



# Microbial Extract Technology based products

## Boosting Nutrient Efficiency Through Bioactive



Geolife's **Microbial Extracts Technology (MET)** is a pioneering innovation that leverages the power of naturally derived bioactive compounds from beneficial microbes. Instead of using live organisms, MET focuses on **extracting vital metabolites, enzymes, amino acids, and growth promoters** produced by these microbes.

### How It Works

- Beneficial microbes are carefully cultivated under controlled conditions.
- During their metabolic activity, they release a variety of powerful bioactive molecules.
- These compounds are extracted, purified, and blended with nutrients or plant inputs to enhance their efficiency, absorption, and stability.

### Industrial Benefits

- **Faster Nutrient Uptake:** Bioactive compounds improve solubility and absorption in plant tissues.
- **Enhanced Plant Response:** Stimulates root growth, photosynthesis, and stress resistance.
- **No Viability Issues:** Unlike live microbes, extracts are stable and consistent in performance.
- **Compatible & Safe:** Works in combination with fertilizers, biostimulants, and crop protection products.
- **Residue-Free & Eco-Friendly:** Naturally derived, with no synthetic additives.

### Ideal Applications

- **Foliar sprays, soil treatments, seed coating, fertigation.**

### Sustainability Impact

- Promotes a shift from synthetic chemical dependence to biologically inspired agriculture.
- Supports regenerative farming by improving nutrient use efficiency and reducing environmental load.



## Nano Stim (Ai)

### Vitamin-Based Biostimulant

- Improves efficacy of **Bio-Fertilizers, Water Soluble Fertilizers, Micronutrients, and Growth Promoters.**
- Vitamin B6 plays a crucial role in accelerating plant growth and increasing yield.
- Supports **amino acid biosynthesis, nitrate assimilation, non-protein nitrogen compound synthesis, and symbiotic nitrogen fixation.**
- Promotes strong new **root and shoot development.**
- Acts as a **potent antioxidant**, neutralizing reactive oxygen species to protect plants from abiotic stress.

#### Nano Stim Improves Efficacy of

- **Compound Fertilizers**
- **WSF**
- **Humic Acid**
- **Seaweed Extract**

#### Recommended Dose:

- **Foliar:** 2 gm/acre (5 gm/ha) – can be used alone or in formulations
- **Soil Application:** 4–5 gm/acre (10–12.5 gm/ha)

## FERTIGARDEN

### Fertigarden Is An All-in-one Nutritional Tablet For Indoor And Outdoor Plants.

Fertigarden provides complete essential nutrients in a simple, convenient form.

#### Mode of Action

- **Complete Nutritional Support**  
The Tablet Is Specially Formulated With A Balanced Mix Of Macro And Micronutrients, Ensuring That Plants Receive All Essential Elements Needed For Healthy Growth And Effective Flower Induction.
- **Organic Extracts For Soil Health**  
The Organic Extracts Included In The Tablet Help Maintain Soil Health By Preventing Soil-borne Pathogens And Reducing Pest Invasion.
- **Slow-release Technology**  
Made With Geolife's Advanced Slow-release Technology, This Tablet Ensures A Steady Supply Of Nutrients Over An Extended Period.
- **Enhanced Soil Quality**  
The Tablet Boosts The Organic Matter In The Soil, Which In Turn Promotes The Growth Of Beneficial Microorganisms.

#### Composition

N, P, K, Fe, Zn, Mn, Mg, B, Ca

#### Compatibility

Compatible with water-soluble fertilizers, biostimulants, biofertilizers.

## Plant Stimulators

### BRASSINOSTEROID TECHNICAL

An advanced formulation accelerating plant flowering, leveraging eco-friendly compounds for robust floral initiation, enhancing yield, and reproductive performance for crops and ornamental plants.

#### Mode Of Action

- The product works by binding to BRI1 receptors, activating flowering transcription factors, regulating gene expression via BZR proteins, and influencing cell processes and stress responses.
- It promotes cell elongation, increases flower count, and boosts plant resilience to various stresses.

#### Compatibility

- Compatible with water-soluble fertilizers, organic pesticides, herbicides, biostimulants, biofertilizers, and biopesticides.

#### Composition

- **Natural Brassinolid**

#### Crops

- Applicable for all crops – field crops, fruits, vegetables, and ornamental plants.

#### Recommended Dose:

- **5 gm per acre or 12.5 gm per hectare**

# Pheromones Traps

*Sustainable. Species-Specific. Smart Pest Management*

Geolife's Pheromones are natural, species-specific chemical signals used to influence insect behaviour without harming the environment. Geolife harnesses this biological intelligence to offer effective pest monitoring and control through pheromone-based traps and lures.

## Why Use Pheromones Traps?

- Non-Toxic & Biodegradable
- Highly Specific to Target Pest
- Safe for Humans, Animals & Crops
- Ideal for Organic & IPM Programs
  - Minimizes Insecticide Usage
- Helps in Early Detection & Population Control
  - Patent-Pending Trap Designs



## Applications of Pheromones

- **Monitoring**

Early detection of pests to support timely, targeted control measures.

- **Mass Trapping**

Captures high pest populations to reduce reproduction and crop damage.

### Types of Traps

TRAP TYPE	USE CASE	TARGET PESTS
Delta Trap	Monitoring	Moths, Leaf Miners
Funnel Trap	Mass Trapping	Bollworms, Borers
Fruit Fly Trap	Mass Trapping	Bactrocera species
Blue Sticky Trap	Monitoring	Thrips
Yellow Sticky Trap	Monitoring	Whiteflies, Aphids, Leafhoppers

### General Technical Specification

FEATURE	SPECIFICATION
Lure Material	Virgin Silicone Rubber (Tube/Septa)
Field Duration	30–45 Days per lure
Shelf Life	18 Months from packing
Dosage	1–3 mg (species dependent)
Trap Placement	1 ft above canopy or within crop zone
Recommended Usage	5–20 traps per acre depending on pest pressure

## Target Pests & Crop Recommendations

- **Fall Armyworm (*Spodoptera frugiperda*)**

Crops: Maize, Sorghum, Rice, Millets

Damage: Leaf perforation, heavy defoliation, yield loss

Trap Use: 10–20 traps/acre

Composition: Z9:14AC, Z11:16AC, Z7:12AC (87:12.5:0.5)

- **Fruit Flies (*Bactrocera* spp.)**

Crops: Mango, Guava, Papaya, Citrus, Cucurbits

Damage: Fruit rot, internal larval damage, premature drop

Trap Use: 5–10 traps/acre

Composition: Specific to *Bactrocera dorsalis*, *zonata*, etc.

- **Tuta Absoluta (Tomato Leaf Miner)**

Crops: Tomato, Potato, Eggplant

Damage: Mines leaves, stems, and fruits—up to 100% crop loss

Trap Use: 5–10 traps/acre

Composition: (E,Z,Z)-3,8,11-Tetradecatrienyl acetate & (E,Z)-3,8-Tetradecadienyl acetate

- **Pink Bollworm (*Pectinophora gossypiella*)**

Crop: Cotton

Damage: Attacks lint and seeds, secondary pest invasion

Trap Use: 5–10 traps/acre

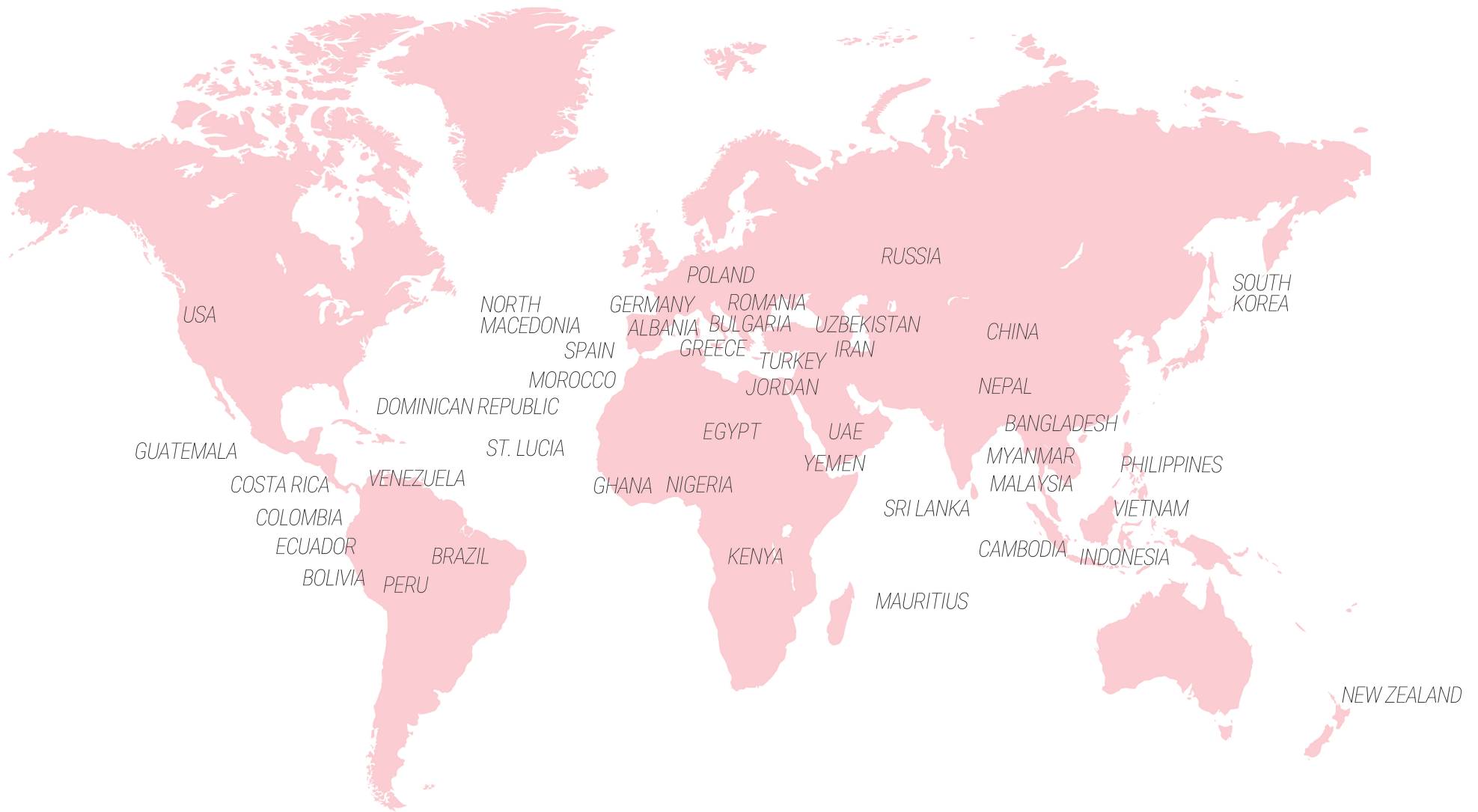
Composition: (Z,E) and (Z,Z)-7,11-Hexadecadienyl acetate

Dosage: 3 mg per lure

### More Pests Covered

- *Helicoverpa armigera* – Cotton Bollworm
- *Chilo* spp. – Maize/Sugarcane Borers
- *Leucinodes orbonalis* – Brinjal Shoot Borer
- *Plutella xylostella* – Diamondback Moth
- *Spodoptera litura* – Oriental Leafworm
- *Scirpophaga* spp. – Rice & Sugarcane Borers
- *Crociodomia binotalis* – Cabbage Head Caterpillar and 30+ more pests!

OUR GLOBAL PRESENCE





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