



Bionat Guide

www.bionat.com

About Bionat

Bionat is a leading agricultural company specializing in the production of organic fertilizers as a core strategy to support sustainable agriculture. The company aims to develop natural solutions that enhance soil fertility, improve plant health and growth, and ultimately boost crop quality and yield.

Bionat employs innovative technologies and environmentally friendly practices, backed by a team with over 50 years of experience in agriculture. The company is dedicated to meeting farmers' needs while preserving natural resources, promoting clean and sustainable farming practices, and ensuring a brighter future for the agricultural sector and the environment.

Bionat Objectives

- 1. Promoting Sustainable Agriculture:** Delivering natural and effective agricultural solutions to improve soil fertility and enhance crop growth while protecting the environment.
- 2. Supporting Organic Farming:** Providing natural organic fertilizers tailored to the needs of farmers adopting organic farming practices.
- 3. Boosting Productivity and Crop Quality:** Developing products that enhance agricultural production both in quantity and quality.
- 4. Environmental Conservation:** Committing to eco-friendly technologies that minimize negative impacts on natural resources.
- 5. Building Strong Partnerships:** Collaborating with farmers and agricultural institutions to provide integrated solutions that drive agricultural development.
- 6. Contributing to Food Security:** Supporting food security at both local and global levels by ensuring high-quality crop production.
- 7. Innovating in Fertilizers:** Investing in research and development to introduce new products that meet market demands and keep pace with advancements in the agricultural sector.
- 8. Empowering Farmers:** Offering technical support and agricultural guidance to help farmers improve efficiency and maximize the utilization of their resources.



BioSoil is designed for use in irrigation networks.

Goat Manure: A natural source of organic nutrients that enhances soil fertility.

Seaweed: Rich in minerals and trace elements that stimulate plant growth.

Bacteria: Microorganisms that promote biological activity in the soil and improve nutrient absorption.

Micronutrients: Essential elements such as iron, zinc, and manganese that support vital plant functions.

Macronutrients: Key nutrients like magnesium and calcium that contribute to the health of soil and plants.



What are the Benefits of BioSoil on Plants and Soil

Key Benefits of BioSoil for Soil

Rapid Nutrient Supply: Contains soluble nitrogen, phosphorus, and potassium, making it easily absorbable by plant roots.

Stimulates Soil Bacteria Activity: Enhances the formation of natural humus and boosts soil fertility while quickly correcting nutrient deficiencies.

Efficient Treatment of Nutrient Deficiencies: Offers faster results in addressing soil nutrient shortages compared to solid organic fertilizers.

Improves Soil Structure: Regular use of BioSoil enhances overall soil structure and increases its aeration capacity.

Enhances Soil Moisture Retention: Improves the soil's ability to retain moisture, aiding plants in withstanding drought conditions.

Reduces Soil Toxicity: The bacteria in BioSoil work to neutralize or mitigate the effects of toxic compounds, including excess chemical fertilizers.

Releases Locked Nutrients: Unlocks nutrients like phosphorus and potassium that are present in the soil but in insoluble forms, making them accessible to plants through bacterial activity.



How BioSoil Works in Soil

- **Comprehensive Nutrient Blend:**

Contains a balanced mix of macronutrients (nitrogen, phosphorus, potassium) and micronutrients (e.g., iron, magnesium, zinc) that support overall plant growth.

- **Fast Nutrient Absorption:**

BioSoil is quickly absorbed through plant roots, ensuring an immediate supply of essential nutrients. Its rapid absorption promotes plant growth at all stages, whether during vegetative growth, flowering, or fruiting.

- **Supports Healthy Plant Growth:**

Enhances the development of strong and healthy leaves and stems, promoting overall plant vigor. It also improves fruit quality, including size, color, and taste.

- **Stimulates Cell Division:**

Encourages cell division and new tissue formation, leading to increased root volume and density.

- **Enhances Root Extension:**

Supports root system expansion, allowing roots to absorb water and nutrients more effectively.

- **Promotes Microbial Activity:**

Magnesium fosters microbial activity in the soil surrounding the roots, aiding in the natural breakdown of organic matter and the release of nutrients. This microbial activity not only enhances root health but also helps protect against root diseases.



How BioSoil Works with Chemical Fertilizers

•Nutrient Release:

Chemical nutrients like nitrogen, phosphorus, and potassium become more readily available for absorption when organic matter is present. BioSoil creates an active environment for beneficial bacteria that break down these nutrients.

•Organic-Chemical Balance:

Combining organic fertilizers with chemical inputs achieves a sustainable nutrient balance for plants while preventing soil exhaustion.

•Enhances Beneficial Microorganisms:

Goat manure in BioSoil promotes the growth of beneficial bacteria and fungi, which help break down chemical compounds into plant-absorbable forms.

•Heavy Metal Binding:

Liquid organic fertilizers in BioSoil bind heavy metals in the soil, reducing their toxicity and preventing damage to plants.

•pH Stabilization:

The organic components in BioSoil mitigate soil acidity or alkalinity, enhancing the efficiency of chemical fertilizers.

•Improves Cation Exchange Capacity:

Organic acids in BioSoil increase the negative charge of the soil, improving its ability to attract and retain positively charged nutrients (e.g., potassium (K^+), magnesium (Mg^{2+}), calcium (Ca^{2+})) added by chemical fertilizers.

•Prevents Nutrient Leaching:

When used alone, chemical fertilizers can result in nutrient leaching (e.g., potassium and magnesium being washed away by irrigation or rain). The increased negative charges from BioSoil's organic matter stabilize these nutrients in the soil, reducing loss and improving availability.





Benefits of Liquid Fertilizer

- **Rapid Absorption:**

Liquid fertilizer is absorbed faster than solid fertilizers as nutrients are dissolved in water, making them immediately available to plants after application.

- **Precise Nutrient Control:**

It allows greater control over nutrient dosages, as it can be easily diluted with water to meet specific needs. This is ideal for regular soil fertilization.

- **Even Distribution:**

Liquid fertilizer is easily distributed uniformly across the soil through drip irrigation systems, ensuring equal access to nutrients for all plants.

- **Ease of Application:**

Unlike solid fertilizers, liquid fertilizer does not require mixing with soil and can be directly added to irrigation systems, saving farmers time and effort.

- **Reduced Nutrient Loss:**

Liquid fertilizer minimizes nutrient losses that often occur with solid fertilizers due to over-irrigation or heavy rainfall. It dissolves efficiently and is absorbed more effectively.

- **Insect Control Advantage:**

Liquid fertilizer reduces the chance of creating environments conducive to pests. Unlike solid fertilizers, which may linger in the soil and promote pest habitats, liquid fertilizer is quickly absorbed by plants and soil, reducing the likelihood of harmful infestations.

The BioSoil Difference





What is BioFert?

BioFert is a natural organic fertilizer enriched with beneficial microorganisms that support soil and plant health. It is derived from goat manure, seaweed, bacteria, offering a rich blend of organic matter and essential nutrients. BioFert is fermented using advanced bio-fermentation techniques to enhance its biological efficacy, and it is sterilized and treated with the "BioNAT Process" to eliminate odors, making it ideal for organic farming.

Benefits:

1. Promotes Plant Growth:

Contains beneficial microorganisms that stimulate healthy plant development.

2. Improves Soil Fertility:

Enhances soil's nutrient content and water retention capacity.

3. Boosts Soil Biological Activity:

The bio-fermentation process activates and sustains microbial life in the soil.

4. Increases Plant Health and Productivity:

High nutrient availability improves plant vigor and crop yields.

5. Odor-Free and Easy to Use:

Treated to be free from unpleasant smells, making application convenient and farmer-friendly.



Where to Apply BioFert

Applications of BioFert

1. In Nurseries:

1. Mix BioFert with peat in ratios tailored to the plant's specific needs.
2. Enhances soil structure and ensures the availability of essential nutrients for seedlings during growth.

2. In Home Garden Beds:

1. Add an appropriate amount of BioFert to the soil in the planting beds.
2. Mix it thoroughly into the soil to ensure even distribution.
3. Best used when preparing the soil for the first time or when there is a need to boost plant growth.

3. In Outdoor Gardens:

1. Apply BioFert as a soil amendment to enhance fertility and improve garden soil.
2. Spread it evenly on the soil surface or mix it into the topsoil layer before planting.
3. Water after application to help nutrients absorb effectively.





AgroBoost Foilier Fertilizer

AgroBoost: A Natural Foliar Fertilizer

AgroBoost is a natural foliar fertilizer designed to effectively enhance plant growth by delivering nutrients directly through the leaves. It is readily absorbed via the stomata on leaf surfaces and then transported throughout the plant's vascular system (phloem and xylem).

This fertilizer stimulates vital plant processes, including metabolic photosynthesis, resulting in increased cellular activity and improved productivity.



AgroBoost Composition

Organic Compounds The key components of AgroBoost’s formula are organic materials derived from goat manure organic matter, supplemented with natural biological catalysts (such as seaweed, natural auxins, and other organic compounds), and include:

Humic extracts 13.5% (4% active humic acids).

Fulvic acids 1.5%.

Multiple natural vitamins.

Amino acids in the range of 15-20%, which include:

Hydroxyproline	Glutamic acid	Aspartic acid	Phenylalanine	Histidine
Methionine	Arginine	Proline	Threonine	Isoleucine
Leucine	Tryptophan	Cysteine	Glycine	Serine
	Lysine	Tyrosine	Alanine	Valine



How does AgroBoost Work?

- **Absorption through Stomata:** The leaves contain small openings called stomata, which are responsible for the intake and release of gases such as carbon dioxide and oxygen. When AgroBoost is sprayed onto the surface of the leaves, the nutrients in it are directly absorbed through these stomata.
- **Transport through the Plant's Vascular System:** After absorption, the nutrients are transported through the plant's vascular system, which consists of:
 - **Phloem:** Transports organic materials and the products of photosynthesis from the leaves to the rest of the plant.
 - **Xylem:** Transports water and minerals from the roots to the leaves.
- **Stimulating Biological Activities:** The fertilizer contains substances that stimulate biological processes within the plant, such as photosynthesis. Photosynthesis is the process by which plants use light to convert carbon dioxide and water into food (sugars) and energy, helping them to grow.



Overall Impact: The nutrients provided by AgroBoost contribute to improving:

- The formation of chlorophyll (the green material) that enhances photosynthetic efficiency.
- The production of proteins and enzymes essential for growth.
- Enhancing the plant's resistance to diseases and harsh environmental conditions.

Benefits of Using AgroBoost:

- **Increased Productivity:**
It enhances plant growth rates and crop quality.
- **Improved Nutrient Efficiency:**
It allows plants to absorb nutrients more quickly compared to traditional root absorption methods.
- **Environmentally Friendly:**
Being organic, it reduces environmental pollution.
- **Reduced Plant Stress:**
It helps the plant cope with stress factors such as drought, temperature changes, or infections.



How to Apply AgroBoost

- **Application Method:** AgroBoost is sprayed onto the leaves using agricultural sprayers, ensuring that all parts of the plant are covered for even absorption. It is recommended to apply it early in the morning or in the evening to prevent nutrient evaporation due to the heat of the sun.

When to Use: During critical stages of plant growth, such as:

- The flowering stage.
- The fruit formation stage.
- When signs of nutrient deficiency appear.



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more information please visit**

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