

ABC-BioPhosphate: Next-Generation Fertilizer

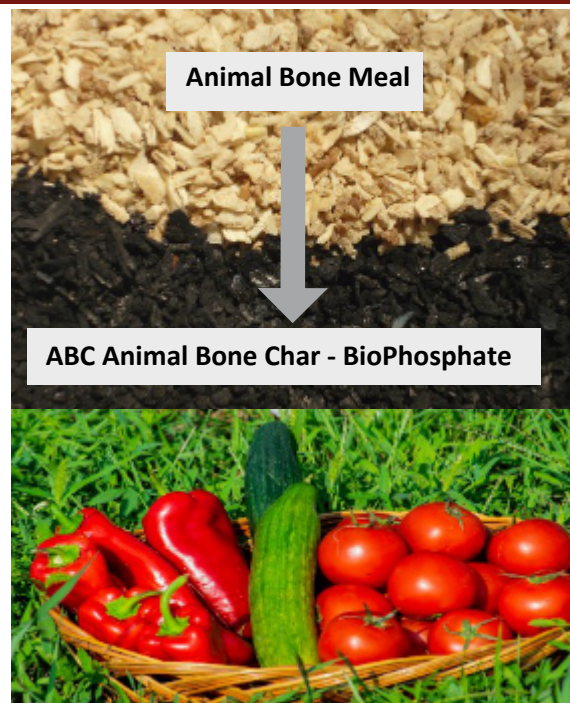
Biotech-Formulated Bio-NPK-C | Pure, Contaminant-Free Phosphorus



ABC-BioPhosphate: Closing the nutrient loop & powering sustainable agriculture.

Quick Facts

- **Product Function Categories:** PFC1 Solid Organic Fertilizer, PFC2 Liming Material, PFC3 Organic Soil Improver, PFC4 Growing Media, PFC5 Agronomic Additive, PFC6 Plant Bio-stimulants, PFC7 Fertilizing Products Blend.
- **Renewable input:** food grade grade bone meal/grist unexploited biomass.
- **High value product portfolio:** ABC-BioPhosphate (protein-free), BIO-NPK-C compound formulations, Adsorbents, Bioenergy.
- **Physical Characteristics:** Particle size distribution: powder <0.5 mm (mesh 35), Granules 0.5–2 mm (mesh 35/10), Granules 2–4.7 mm (mesh 10/4), Broken granular fraction included.
- **Nutrient Content :**
 - Basic composition: 35% P_2O_5 and 44% CaO.
 - Customizable BIO-NPK-C compound formulations tailored to user requirements
- **Application limitations:** None (no technical restrictions)
- **Permits and certifications:**
 - MS Authority permit number: 6300/2407-1/2020.
 - Meet EU Fertilizing Products Regulation (FPR) 2019/1009 in several PFCs and CMCs. Also meet Us, UK, AU and JP agri standards. Full REACH certificate number: 01-2119490075-38-0042.
- **Geographical Coverage:** EU (IT, ES, FR, DE) UK, USA, AU, JP.



ABC-BioPhosphate: Premium Bio-Based Phosphorus for a Greener & More Profitable Agriculture at lower cost

ABC-BioPhosphate is a 100% bio-based, premium natural fertilizer with a distinctive macro-porous structure and economically high-concentrated recovered phosphorus content. Developed through advanced 3R nutrient recovery pyrolysis technology, it transforms unexploited organic by-products into a high-value, sustainable resource for modern agriculture.

Formulated into BIO-NPK-C compounds in any nutrient ratio to meet specific user or market demands, ABC-BioPhosphate is ideal for organic and low-input farming systems, delivering both environmental and financial returns.

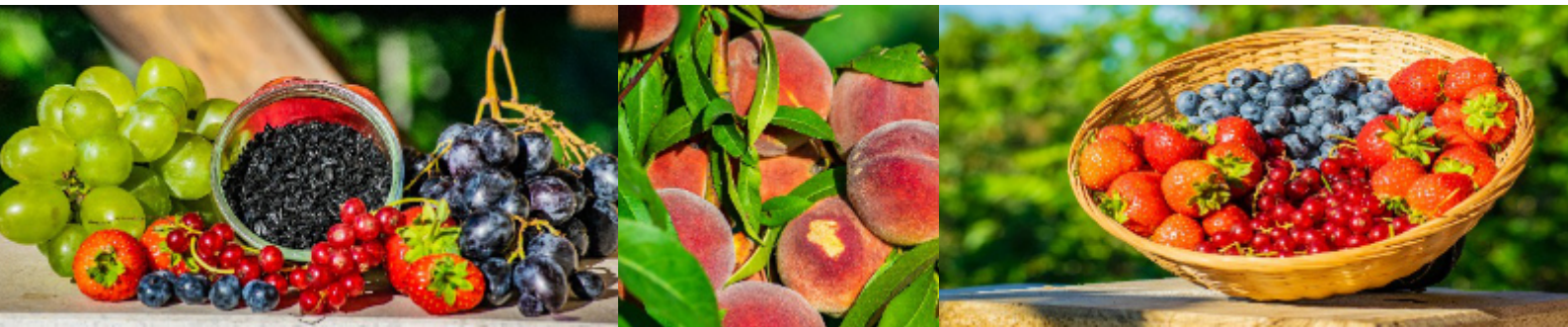
With over 35% P_2O_5 and 37% calcium, both in highly plant-available forms, it ensures a long-term, renewable phosphorus supply—reducing dependency on imported mineral fertilizers, which are often contaminated and finite. The addition of potassium (K), magnesium (Mg), and other beneficial trace elements further enriches its agronomic performance, supporting strong root growth, improved soil health, and higher yields.

Key Benefits at a Glance:

- Boosts productivity: Field trials show yield increases of over 10% and production cost reductions of up to 15%.
- Improves food quality: Enhances nutrient density and crop resilience.
- Environmentally safe: Free from cadmium, uranium, and other harmful contaminants.
- Sustainable and circular: Produced from renewable EU-sourced biomass using a zero-emission, energy-independent process with surplus green energy generation.

Its proven performance is backed by multi-country open-field and greenhouse trials in Italy, Israel, Hungary, Germany, the Netherlands, Slovenia, and Denmark—covering a wide range of soils, crops, and climates.

Produced using the IPR protected 3R nutrient recovery process, ABC-BioPhosphate is fully authorized, organically certified, and EU Green Deal aligned, making it a strategic solution for both today's farming challenges and tomorrow's food security needs.



ABC-BioPhosphate: Next-Generation Fertilizer

Biotech-Formulated Bio-NPK-C | Pure, Contaminant-Free Phosphorus



ABC-BioPhosphate: Powerful - Sustainable - Proven

Why ABC-BioPhosphate is a Game-Changer

- **Premium performance & nutrient profile:** Over 35% P_2O_5 and bioavailable Ca – ideal for long-term soil enrichment.
- **Higher Efficiency** – Controlled nutrient release for maximum plant uptake and minimal losses.
- **Customizable BIO-NPK-C compound formulations** tailored to specific user needs.
- **High-Performance Structure** – Fully macroporous matrix for optimal nutrient delivery, soil interaction and water retention.
- **Critical Raw Material** – 92% apatite-based bio-phosphate (+8% carbon), recognised by the EU as a strategic resource.
- **Clean & Safe** – 100% organic origin, free from cadmium, uranium, and other contaminants. (PAH19 < 1 mg/kg).
- **100% Biological Origin** – Produced without chemicals via a unique, sustainable processing method.
- **Sustainable Production** – Manufactured with zero-emission, energy-independent 3R technology.
- **EU-Exclusive Technology** – The only phosphorus recovery system from food-grade animal bones in Europe.
- **Sustainable & Renewable** – Turns unexploited biomass by-products into high-value fertilizers.
- **Proven & Certified** – Backed by 4-year accredited trials, MS Authority permitted and organic certification. Full REACH certification.

Powerful Nutrient Concentration

Unmatched Product Safety

100% Legal and Regulatory Compliant

Cost Effective Solution



Impact and Value for Users

- **Produced from unexploited, renewable EU-sourced unexploited by-products** of 100% biological origin.
- **Secures phosphorus supply** and reduces dependency on imported raw materials.
- **Economically concentrated natural fertilizer** (>35% P_2O_5) with high nutrient-use efficiency.
- **Flexible application across various crops, soils, and climates** – delivering consistent results.
- **Enhances food quality and safety** while reducing production costs.
- **EPR-certified** (Extended Producer Responsibility) for sustainable market compliance.
- **Demonstrated Agronomic impacts:**
 - Increases yields by over 10%, reduces production costs by more than 15%, and significantly improves fruit quality.
 - Safe under all climatic and soil conditions.
 - **Gradual, long-lasting phosphorus release.**
 - Improves root development and crop resilience under drought stress.

Application Guide:

- **Cultivation Methods:** Suitable for both open field and greenhouse cultivation, offering flexibility across diverse growing environments.
- **Recommended Crops:** Ideal for a wide range of horticultural plants including vegetables, aromatic and medicinal crops, permanent crops such as fruit trees and grapes, as well as staple crops like rice, tobacco, and various field crops. Suitable for both conventional and organic farming systems.
- **Application Rates:** Typically applied at rates between 0.2 and 1.5 tons per hectare, depending on soil conditions, crop type, and specific nutrient requirements. Application can be adjusted to optimize nutrient availability and enhance crop yield and quality.
- **Additional Notes:** Compatible with other organic amendments and fertilizers; improves soil health by enhancing nutrient retention and microbial activity. Application timing can be tailored to crop growth stages for maximum efficiency.



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