

ABC BIOPHOSPHATE PRODUCT FACT SHEET

Recovered and BIO-NPK-C formulated organic phosphorus fertiliser for full replacement of the Cd/U contaminated chemical fertilisers



recovered P fertiliser • biophosphate • biofertiliser • high nutrient density • total product safety

Key facts

- **Product Category:** PFC 1 Solid organic fertilizer, PFC 2 Liming material, PFC 3 Organic soil improver, PFC 4 Growing media, PFC 5 Agronomic additive, PFC 6 Plant bio-stimulant, PFC 7 Fertilising products blend
- **Input material:** food grade cattle and other types of bone grist
- **General appearance:** 1-5 mm grain size granulated or powdered 0-1 mm fractions
- **Nutrient Content (N-P-K %):** basic **32% P₂O₅+ 44% CaO**. Any BIO-NPK-C formulations as of user demand
- **Limitation of application:** no technical limitations
- **Permit availability:** MS Authority permit number: 02.4/102-2/2015 as of EU for horticultural applications & lawfull marketing in the EU27, EC REACH certificate over 1000 t/y capacity: under progress
- **Geographical area:** EU27, UK, USA, Australia and Japan
- **Price range:** BIO-NPK-C formulated from 500 €/ha

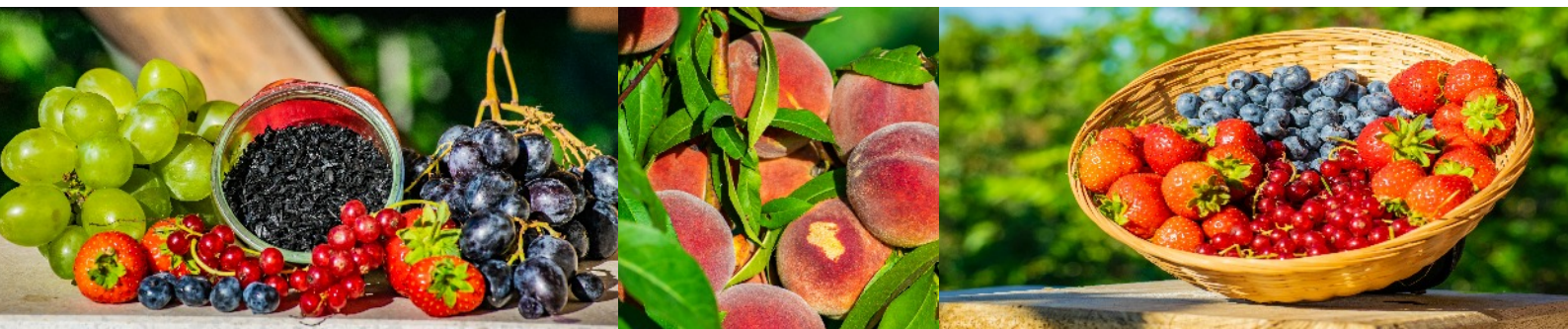


Summary

The ABC-BioPhosphate is a natural and organic product with macrospores structure and economically high concentrated recovered Phosphorus content. The ABC-BioPhosphate commercial products formulated to BIO-NPK-C in any composition as of user/market demands for both organic and low input farming application cases. The ABC-BioPhosphate contains high amount of Phosphorus expressed in P₂O₅ (over >30%) and Calcium (37%) that are processed to be available for plants, which allows efficient, environmentally safe and naturally renewable phosphorus supply. Beside the highly available recovered phosphorus/calcium content the ABC-BioPhosphate also contains other important recovered trace elements, and other nutrients, such as K and Mg. The product is a fully safe and economical innovative fertilizer with primarily application in the horticultural organic/low input farming cultivations with combined beneficial and multiple effects. The market competitive ABC-BioPhosphate product is proven field demonstrated to validate ABC-BioPhosphate agronomical effects. Several open field and green house cultivation tests have been performed in IT, IL, HU, DE, NL, SI and DK under different temperate climatic and soil conditions. Both the 3R zero emission pyrolysis and nutrient recovery process and the ABC-BioPhosphate products in open ecological soil environments are EU Authority permitted.

How to use

- **Type of farming:** organic, low input, conventional
- **Cultivation methods:** open field, greenhouse
- **Recommended crops:** Fresh vegetables, strawberries, permanent crops (fruit trees), grapes, rice, tobacco
- **Application doses:** 0.2-1.5 t/ha



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Key ABC-BioPhosphate features

- **HIGH NUTRIENT DENSITY:** >30% P₂O₅ + 38 – 42 % CaO, Mg, K + any BIO-NPK-C formulations as of User need
- Macroporous structure
- 92% apatite based bio-phosphate mineral content (+ 8% C) that is classified by the EU as critically important raw material (COM/2017/0490)
- **NO OR NEGLIGIBLE ORGANIC CONTAMINANTS:** PAH₁₉ <1 mg/kg
- **By its natural character NO OR NEGLIGIBLE TOXIC ELEMENT CONTENT**
- Controlled released organic fertiliser

The key benefit of ABC-BioPhosphate

- Produced from unexploited **and renewable by-product streams** from EU sources
- **Providing SECURE OF PHOSPHORUS SUPPLY** and a reduction in reliance on imports
- Economically concentrated natural fertiliser above 30% P₂O₅
- Flexible application scenarios for the Users
- **Fully organic certified.** Improved food quality & safety for less cost
- The product is fully **safe to use** under any climatic and soil conditions. No water pollution risk
- **EPR: Extended Producer Responsibility certified**
- **Significant fruit quality improvements**, yield+>10% and decreased production cost >15%

Competitive position and advantages

The Bio-Phosphate is the only known technology, products system and original solution in the EU in the field of **recovery of critical raw material Phosphorus from food grade animal bones**. While the mined mineral phosphate is a finite and non renewable resource, **ABC-BioPhosphate comes from a sustainable and renewable by-product stream, which is unexploited biomass**. The ABC-BioPhosphate is a product of a unique structure with large macropores and with a high content of P. The product is fully comparable to a mineral fertilizer but the ABC-BioPhosphate is controlled release P fertilizer with pure organic structure versus the rapid release mineral fertilizer with high levels of Cadmium and Uranium contamination. Unlike processed P-fertilisers, which is highly soluble and poses a pollution risk to inland waterways, it is possible to control the release of nutrients in ABC-BioPhosphate fertiliser so that a greater proportion is taken up by the plants. **The recovered, contamination free, safe and concentrated Bio-Phosphate is strategic product for the organic and low input farming in the targeted high end markets**. The BIO-NPK-C formulated ABC-BioPhosphate can be used as bulk in growing media and amendment in nursery substrates as well. The combination of formulated ABC-BioPhosphate with compost, manure or another organic fertilizer is most encouraging for agronomic performance. The ABC-BioPhosphate and its formulated products are accredited EU Authority permitted in open ecological soil environments based on long term (4 years) accredited efficiency tests (nursery and open field) by different independent and accredited departments from the MS national Soil and Plant Protection Authority under EU legislation. **The ABC-BioPhosphate fully meets the Fertilising Products Regulation 2022 EU law harmonization.**

HIGH NUTRIENT DENSITY: >30% P₂O₅
TOTAL PRODUCT SAFETY
FULL LEGAL COMPLIANCE
ECONOMICAL APPLICATIONS



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BIOFARM Agri Research Station