

# ABC BIOPHOSPHATE PRODUCT FACT SHEET

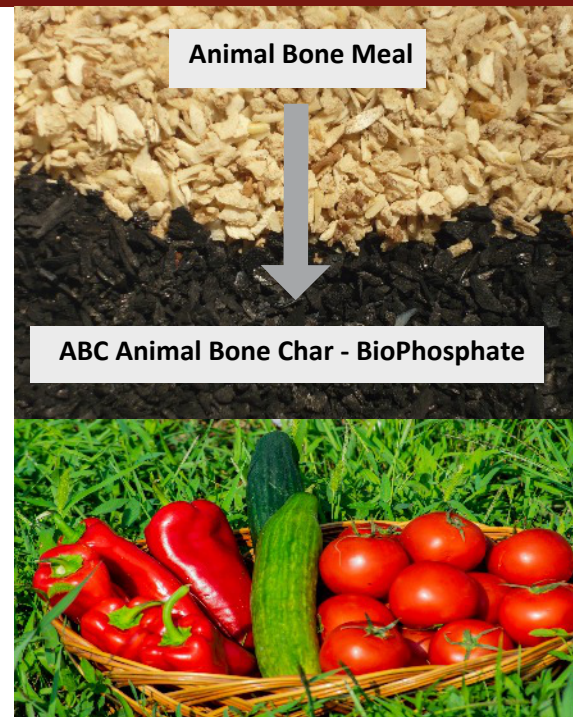
Recovered and BIO-NPK-C formulated organic phosphorus fertilizer for full replacement of the Cd/U contaminated chemical fertilizers



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

## KEY FACTS

- Product Category: 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 .
- Input by-product: food grade grade bone meal/grist.
- Output products: ABC-BioPhosphate (protein free) and its BIO-NPK-C compounds formulation, adsorbents and bioenergy.
- General appearance: grain size powered <0.5 mm (mesh 35), 0.5-2 mm (mesh 35/10), 2-4.7 mm (mesh 10/4) , broken granular fraction
- Nutrient Content (N-P-K %): basic 35% P<sub>2</sub>O<sub>5</sub>+ 44% CaO and BIO-NPK-C compound formulations as of User need.
- Limitation of application: no technical limitations.
- Permit availability: MS Authority permit number: 6300/2407-1/2020, EU FPR2019/1009 NB pre-audited (final audit in 2024), REACH certificate number: 01-2119490075-38-0042, Organic certificated.
- Geographical area: EU27, UK, USA, Australia and Japan.
- Price range: BIO-NPK-Compound formulated from 200 €/ha.

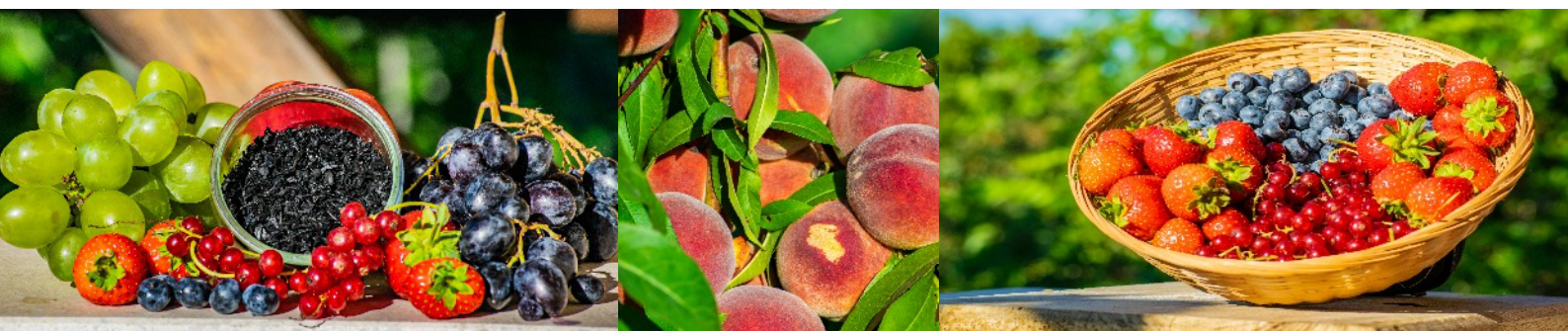


## SUMMARY

The ABC-BioPhosphate is a 100% bio-based natural product with macros-pores 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 P<sub>2</sub>O<sub>5</sub> (over >35%) 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 cultivation with combined beneficial and multiple effects. The market competitive ABC-BioPhosphate product is proven field demonstrated to validate ABC-BioPhosphate agronomic 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/energy independent pyrolysis up-cycling/nutrient recovery process and the ABC-BioPhosphate products are Authority approved.

## HOW TO USE

- Cultivation methods: open field, greenhouse.
- Recommended crops: all horticultural plants, incl. vegetables, aromatic/medicinal crops, permanent crops (fruit trees), and grapes, rice, tobacco, field crops and others...
- Application doses: 0.2-1.5 t/ha.



# ABC-BIOPHOSPHATE PRODUCT FACT SHEET

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## KEY ABC-BioPhosphate FEATURES

- **Economic high nutrient density:** >35% P<sub>2</sub>O<sub>5</sub> + 38 – 42 % CaO, Mg, K and BIO-NPK-C compound formulations as of User need.
- Fully macro-porous structure.
- 92% apatite based bio-phosphate mineral content (+ 8% C) that is classified by the EU as critically important raw material.
- **No contaminants** (not detectable or negligible low level): PAH<sub>19</sub> <1 mg/kg.
- 100% biological origin, no any chemicals used by unique processing.
- Controlled released organic fertilizer that also applied as adsorbent.
- Zero emission/energy independently 3R solution manufactured.

## KEY BENEFITS

- Produced from unexploited and renewable by-product streams from EU sources of solely biological origin.
- Providing **secure of phosphorus supply** and a reduction in reliance on imports.
- Economically concentrated natural fertilizer above with 35% P<sub>2</sub>O<sub>5</sub> high nutrient use efficiency.
- Flexible application scenarios that creating high financial/non-financial values and benefits for the Users.
- Providing improved food quality & safety for less cost.
- The product is fully safe to use under any climatic and soil conditions.
- **EPR: Extended Producer Responsibility certified.**
- **Significant fruit quality improvements**, yield>10% and decreased production cost >15%.

## COMPETITIVE POSITION

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 macro-pores and with a high content of P that is bio-technologically formulated into compound BIO-NPK-C in it's final product form. The product is fully comparable to a mineral fertilizer but the ABC-BioPhosphate is controlled release bio-fertilizer with pure organic structure versus the rapid release mineral fertilizer with high levels of Cadmium and Uranium contamination. Unlike processed P-fertilizers, which is highly soluble and poses a pollution risk to inland waterways with as low as 17% nutrient use efficiency only, it is possible to control the release of nutrients in ABC-BioPhosphate fertilizer so that a high 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 bio-technologically formulated products are accredited EU Authority permitted and based on long term (4 years) accredited efficiency tests (nursery and open field) commercialization approved by MS Soil and Plant Protection Authority under EU legislation. The ABC-BioPhosphate is organic certified and labeled. **The ABC-BioPhosphate is developed to fully meet the EU Fertilizing Products Regulation 2019/1009 and the European Green Deal as well.**

**HIGH NUTRIENT DENSITY: >35% P<sub>2</sub>O<sub>5</sub>**

**TOTAL PRODUCT SAFETY**

**FULL LEGAL COMPLIANCE**

**ECONOMICAL APPLICATIONS**



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