

TECHNOLOGYPROFILE

Carbia™

Carbia brings cane molasses and sugar-industry fermentation co-products into liquid carbon nutrition. Sugars provide a readily usable carbon fraction alongside nitrogen and potassium, connecting carbon input with root-zone nutrient cycling. Its role is a measured seasonal addition; it should be distinguished from humic extracts and from materials intended to build long-term soil carbon stocks.

1 Product identification

Field	Detail
Product name	Carbia™
Category	Biological & supporting nutrition
Principal components	Cane molasses & sugar-industry fermentation co-products
Target crops	Wheat · Maize · Potato · Sugar beet
Agricultural purpose	Root-zone nutrient systems

2 Product role and biological basis

A defined sugar-carbon source

Molasses gives the material a concrete carbohydrate identity, distinct from mineral humates and unspecified organic-matter liquids.

Carbon and nitrogen interact

Carbon additions can change microbial demand for nitrogen, so the available-nitrogen balance matters as much as the amount of carbon supplied.

Account for accompanying minerals

The liquid carries nutrients as well as carbon. Its potassium, nitrogen and salt contribution belong in the overall crop nutrition account.

3 Composition and material characteristics

Cane molasses and fermentation carbon

Carbia uses cane-molasses and fermentation-derived carbon as its material basis. These organic fractions provide a carbon input that interacts with nutrient cycling and biological activity in the root environment.

Carbon and nitrogen balance

Readily available carbon can alter microbial demand for nitrogen. Considering carbon alongside mineral nutrients is therefore central to positioning this material within a root-zone nutrition programme.

4 Published research

1. Pittaway et al. (2018): granular and liquid NPK fertilisers evaluated in sugarcane soil.

Molasses-formulated fertilisers stimulated nitrogen immobilisation; the study also examined dissolved-carbon leaching.

Agricultural relevance

Molasses-formulated fertiliser study in sugarcane soil: the research examined nitrogen immobilisation and dissolved-carbon leaching within the tested NPK formulations.

Dissolved Organic Carbon in Leachate after Application of Granular and Liquid N-P-K Fertilizers to a Sugarcane Soil

5 Crop programmes and application context

Wheat, maize, potato and sugar beet are the principal crop contexts. The carbohydrate and accompanying nutrient fractions fit within soil-nutrition and crop-establishment programmes. Assess available nitrogen, drainage, salinity and existing organic inputs together; the documented wheat observations concern soil biology, rather than a guaranteed yield response.

Wheat and maize establishment

Carbon-containing nutrition is considered alongside available nitrogen and existing organic inputs. Soil-biological observations and crop-establishment records describe different aspects of the response and should be interpreted separately.

Potato and sugar beet root environments

Drainage, salinity and nutrient availability are important contexts for carbohydrate-containing materials in these root and tuber crops. The role of soluble carbon differs from adding bulk organic matter.

Carbon and nitrogen coordination

Microbial use of readily available carbon can change the availability of mineral nitrogen. Carbon inputs are therefore assessed with the crop's nitrogen demand and the existing soil-nutrition programme.

6 Quality and compatibility

Carbon characterisation

Organic carbon, soluble solids and associated nutrient fractions help characterise a molasses-based material. Their analytical basis supports a clear distinction between carbon input and mineral nutrient supply.

Root-zone suitability

Viscosity, dispersion, storage behaviour and electrical conductivity are relevant practical properties. Root-zone aeration and nutrient status provide the context for evaluating the role of an additional carbon input.

Carbon inputs should be assessed together with immediately available nitrogen and root-zone conditions.

7 Product questions

Is Carbia a complete microbial fertiliser?

Carbia's declared identity is cane molasses and sugar-industry fermentation co-products. It provides a carbon-containing nutritional material rather than a defined live microbial inoculant.

Why is available nitrogen relevant to a carbon input?

Microbial use of readily available carbon can immobilise mineral nitrogen. The cited work examines this response, so carbon nutrition is considered together with crop nitrogen demand and existing soil fertility.

8 References and technical documents

Product specifications and application guidance are provided in the applicable technical data sheet and market label.

1. Dissolved Organic Carbon in Leachate after Application of Granular and Liquid N-P-K Fertilizers to a Sugarcane Soil
2. USDA NRCS — Soil Organic Carbon
3. USDA NRCS — Reactive Carbon
4. USDA NRCS — Soil Health Assessment
5. University of Minnesota — Soil Biology
6. University of Minnesota — Why you should test your compost

Product information and technical support

Contact Huasheng