

TECHNOLOGYPROFILE

Ferma™

Ferma brings together organic acids, sugars, amino acids and peptides from fermented molasses, accompanied by potassium and calcium. This liquid nutrition profile addresses the relationship between growth and environmental stress, with particular relevance to heat-sensitive development. It complements water and nutrient management rather than replacing them.

1 Product identification

Field	Detail
Product name	Ferma™
Category	Biostimulants
Principal components	Fermented molasses · organic compounds · potassium & calcium
Target crops	Potato · Sugar beet
Agricultural purpose	Crop vitality & growth management

2 Product role and biological basis

Several organic fractions

Sugars, organic acids, amino acids and peptides give fermentation-derived nutrition a broader composition than a single purified compound.

Attention to heat-sensitive stages

Heat can disrupt leaf function and development even when nutrient supply is adequate. Fermentation-derived materials can be considered within that wider stress-management programme.

Organic carbon, potassium and calcium

Potassium and calcium contribute to the material profile alongside organic carbon; each needs separate accounting in the crop programme.

3 Composition and material characteristics

Fermented molasses

Ferma is a liquid material derived from fermented molasses. Organic acids, sugars, amino acids and peptides form a combined organic profile relevant to crop development and physiological responses during environmental stress.

Organic carbon with potassium and calcium

The organic fractions are accompanied by potassium and calcium. This combination connects carbon-based nutrition with mineral supply, particularly when reviewing growth during heat-sensitive stages and coordinating it with irrigation and fertilisation.

4 Published research

1. Jayaweera et al. (2024) evaluated a fermentation-derived biostimulant in Maris Piper potatoes under greenhouse heat stress

PSII efficiency improved and tuber development responded; the measured photosynthesis-rate difference was not statistically significant.

Agricultural relevance

Formulation-specific greenhouse study: the tested fermentation-derived biostimulant on Maris Piper potato under heat stress. PSII and tuber-development findings are reported alongside a non-significant photosynthesis-rate comparison.

Jayaweera et al. (2024) · Chemical and Biological Technologies in Agriculture
<https://doi.org/10.1186/s40538-023-00531-3>

5 Crop programmes and application context

Potato and sugar beet are the crop focus. In potato, the technical background concerns leaf function and tuber development under heat stress; in sugar beet, it concerns crop growth and sugar accumulation during high temperatures. Water supply, nutrient status and crop stage remain part of the assessment.

Potato during heat-sensitive growth

The published potato study examines leaf function and tuber development under heat stress. It provides crop-specific evidence for fermentation-derived organic compounds; water supply and the existing nutrition programme remain part of the assessment.

Sugar beet growth and accumulation

Sugar beet is one of the stated target crops for this fermentation-derived nutrition approach. Canopy condition, crop stage and sugar accumulation are considered together when high temperatures affect crop development.

Organic fractions within crop nutrition

Fermented molasses contributes a combination of organic compounds with potassium and calcium. These mineral contributions belong in the nutrient budget; physiological observations and harvested yield remain distinct outcomes.

6 Quality and compatibility

Composition and reporting basis

Organic carbon, nutrient fractions and the basis used to express their content are central to fermentation-material characterisation. A consistent mass or volume basis supports a clear assessment of the nutrient contribution.

Liquid stability and compatibility

Homogeneity, density, pH and storage behaviour help describe a fermentation-derived liquid. Compatibility assessment considers these characteristics alongside water quality and the other materials used in the crop programme.

Heat-stress management combines crop-stage assessment with adequate water and mineral nutrition.

7 Product questions

What is Ferma made from?

Ferma is based on liquid fermented molasses, with organic compounds and accompanying potassium and calcium. It is not described as a live microbial inoculant.

What does the potato study show?

The cited heat-stress study reported improved photosystem II efficiency and a tuber-development response. The measured photosynthesis-rate comparison was not statistically significant; these endpoints remain distinct.

8 References and technical documents

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

1. Jayaweera et al. (2024) · Chemical and Biological Technologies in Agriculture
<https://doi.org/10.1186/s40538-023-00531-3>
2. Fermentation-derived biostimulant: rice physiology and field response (2024)
<https://doi.org/10.3389/fpls.2024.1432460>
3. Campobenedetto et al. (2021) - Seaweed and yeast extract mixture under tomato water stress
<https://doi.org/10.3390/agriculture11060557>
4. Plant and yeast extract mixture in tomato at elevated temperatures (2020)
<https://doi.org/10.3390/agronomy10030363>

Product information and technical support

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