

	<h1>Technical Datasheet</h1>	Date:	02-07-2023
<b>Product Name:</b> CRIOPROTECT		Version:	02
		Approved:	Operations Direction



**Type:** Preventive and palliative foliar treatment for frost damage.

**pH:** 7.2

**Density:** 1.01 g/mL

**Type of formulation:** Water soluble concentrate

**Mechanisms of action:** Triple mechanism (physical, biological, and systemic)

**Manufactured and marketed by:** Pewman Innovation SpA

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CRIOPROTECT is a 100% organic and biodegradable foliar biofortifier based on Antarctic microorganisms and nanotechnology.

Lowers the freezing point of water through its organic nanobiopolymers (physical mechanism) and prevents the formation of ice crystals by displacing ice-nucleating bacteria by Antarctic bacteria (biological mechanism). In addition, Antarctic bacteria produce beneficial compounds that together with the rest of nutrients generate a systemic benefit, favoring the rooting and absorption of nutrients, helping the plant to withstand low temperatures (systemic mechanism).

Composition	
<i>Pseudomonas Pewmanensis</i>	10 <sup>6</sup> UFC/mL
Nanobiopolymers (polidextrose)	100 mg/L

**Dilution:** CRIOPROTECT should be applied foliarly according to the following recommendations. The dilution should not be less than 0.5% (1L of CP per 200 of water). For first application, reinforcements after heavy rains and interspersed applications of potentially bactericidal products it is recommended to apply 1% concentration (1L of CP per 100 of water). For more

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details on the specific requirements of each crop according to the mode of application, contact the technical team.

Minimum dose recommendations by crop type	
Small and medium-sized vegetables	1 L of CRIOPROTECT per 1 Hectare
Large vegetables and small fruit trees	2 L of CRIOPROTECT per 1 Hectare
Medium to large fruit trees	3-5 L of CRIOPROTECT per 1 Hectare

**For application in nurseries or emerging plants**, a concentration of 2 to 3% is recommended with a frequency of 7 days.

Re-entry period: Immediate re-entry to treated areas. The product does not generate waste.

Rainfall free period: Light rainfall does not affect product performance. For rainfall above 30mm it is recommended to reinforce application once the crops are dry.

Applications and compatibility: Apply foliarly every 10-14 days. It is recommended to make 2 applications before the first frost. Before imminent important frosts it is recommended to forward the next application.

This product is compatible with most fertilizers, stimulants and fortifiers on the market. Compatible with insecticides and herbicides. Compatible with the use of turbines, outdoor stoves, meshes, helicopters, hot air dispersion equipment, among others.

This product is incompatible with antimicrobial (e.g. copper sulfate) and antibacterial chemicals in the same pond. Compatibility with antifungals depends on the specific product, so it is recommended to consult the technical team. The product maintains its operation in soils contaminated with up to 900 ppm of copper.

**Warning: Pewman Innovation will not be present at the time of applying the product, so it is the sole responsibility of the end user to apply it in the manner indicated in this sheet. Pewman Innovation is not responsible for incorrect or malicious use of the product. The performance of the product varies according to the specific climatic and agricultural conditions of each applied zone, for more information contact the technical team of Pewman Innovation.**

Precautions: Non-toxic, 100% organic and biodegradable product. Keep out of reach of children. Do not swallow and avoid contact with eyes, mouth and hands. It is recommended to store in a cool place and keep closed. Do not expose to the sun.

Presentation: Bottles of 1, 5 and 20 liters.

CRIOPROTECT is a 100% organic product that does not generate polluting waste.

CRIOPROTECT lasts for at least 12 months, after which the effectiveness of the product may gradually decrease depending on storage conditions.

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### CRIOPROTECT attributes observed in field trials

- Disminuye el punto de congelamiento del agua en la superficie de las plantas.
- It protects crops from frost damage up to temperatures of at least -3.6 °C (depending on the characteristics of the field and the crop).
- Prevents damage from frost episodes of up to 10 hours.
- Displaces ice-nucleating bacteria.
- Improves the appearance and vigor of the plant.
- Protects foliage, trunks, stems and sensitive structures such as darts, buds and flowers.



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