

## TECHNOLOGYPROFILE

# Calvia™

Calvia is a liquid EDTA-chelated calcium product for targeted mineral supplementation. Review the crop's calcium requirement together with root uptake, irrigation and the balance of other nutrients. The chelating agent and calcium declaration help distinguish this formulation from calcium nitrate, calcium chloride and other complexed-calcium products.

## 1 Product identification

| Field                | Detail                                                               |
|----------------------|----------------------------------------------------------------------|
| Product name         | Calvia™                                                              |
| Category             | Crop nutrition                                                       |
| Principal components | EDTA-chelated calcium                                                |
| Target crops         | Grapes · Citrus · Strawberry · Blueberry · Tomato · Pepper · Lettuce |
| Agricultural purpose | Calcium nutrition in fruit development                               |

## 2 Product role and biological basis

### EDTA chelation

EDTA defines the complexing chemistry, making this calcium option distinct from unchelated salts and other organic-ligand products.

### A focused mineral supplement

Calcium is considered against a specific crop requirement, without using the organic nature of the ligand to imply organic-farming status.

### Calcium supply and transport

Water movement and root function influence where calcium reaches the plant. Supply concentration alone does not predict fruit-calcium status.

## 3 Composition and material characteristics

### EDTA-chelated calcium

Calvia supplies calcium as a liquid EDTA chelate. Chelation describes the relationship between calcium and an organic ligand; it is relevant to solution chemistry and the compatibility of calcium within a nutrient programme.

## Calcium and developing tissues

Calcium nutrition is closely connected with developing tissues and the movement of water through the plant. Root-zone supply, transpiration and growth rate therefore provide important context when evaluating calcium delivery to the target organ.

## 4 Published research

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### 1. de Souza Alonso et al. (2020): Ca-EDTA sprays on calcium-deficient Micro-Tom tomato

Repeated high-concentration Ca-EDTA sprays caused chlorosis and marginal necrosis in the study.

Agricultural relevance

Compound-specific safety study: Ca-EDTA on calcium-deficient Micro-Tom tomato. Chlorosis and marginal necrosis followed repeated high-concentration foliar treatments, highlighting the importance of tissue exposure and crop sensitivity.

Silicon spraying alleviates calcium deficiency in tomato plants, but Ca-EDTA is toxic

## 5 Crop programmes and application context

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Relevant to calcium nutrition in fruit vegetables, fruit trees and nursery systems. Establish whether the problem is inadequate supply or restricted transport, and assess leaf sensitivity and nutrient balance separately; local product documentation governs the appropriate application route.

### Tomato, pepper and lettuce

Calcium nutrition depends on both available calcium and movement within the plant. Tissue demand, root function and water supply provide the context for a calcium-related crop problem.

### Citrus and grapes

Fruit development and leaf condition are considered separately when assessing calcium nutrition. A calcium input complements a nutrient programme; it does not by itself establish a fruit-quality or storage-life outcome.

### Strawberry and blueberry

Small root volumes and sensitive tissues make nutrient balance and solution chemistry relevant. Calcium transport and the crop's water status remain part of the assessment alongside the characteristics of the chelated material.

## 6 Quality and compatibility

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### Calcium and chelate characterisation

Calcium content, chelated fraction and the reporting basis describe different aspects of the material. pH and solution stability are relevant to understanding its behaviour in a nutrition system.

### Crop compatibility

Root and foliar exposure have different physiological contexts. Crop species, tissue sensitivity and the complete nutrient mixture are important dimensions of calcium-chelate compatibility assessment.

Calcium supply and water transport should be considered together when investigating a crop calcium problem.

## 7 Product questions

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**Does a calcium-related symptom always mean insufficient calcium supply?**

Not necessarily. Calcium transport depends on plant water movement and tissue demand as well as supply. Root function and water balance can restrict delivery even when calcium is present.

**Does a chelated form ensure universal leaf compatibility?**

No. Calvia's principal component is EDTA-chelated calcium, and the cited research records leaf injury under some tested conditions. Crop tissue sensitivity and the applicable formulation-specific guidance remain important.

**8 References and technical documents**

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

1. Silicon spraying alleviates calcium deficiency in tomato plants, but Ca-EDTA is toxic
2. White & Broadley - Calcium in Plants (2003)
3. University of Wisconsin-Madison - Blossom End Rot
4. Penn State - Interpreting Irrigation Water Tests
5. Penn State - Blossom End Rot, Internal Whitening, and Rain Check of Tomatoes
6. Penn State - Hydroponics Systems: Nutrient Solution Programs and Recipes
7. Utah State University - Fertigation Facts

**Product information and technical support**

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