EASTMAN

CEDROZ™

post-planting bionematicide

Cedroz™: where technology meets nature

Cedroz is an innovative, terpene-based, post-planting bionematicide for the control of root-knot nematodes in fruit and vegetables. The product is a copy of a natural plant defense mechanism. Together, the two active compounds — thymol and geraniol — have a synergistic mode of action that increases their efficacy in treated soil. Cedroz shows effective performance against root-knot nematodes, resulting in high-quality crops and high yields. It is approved for use in organic farming in the EU.[1]

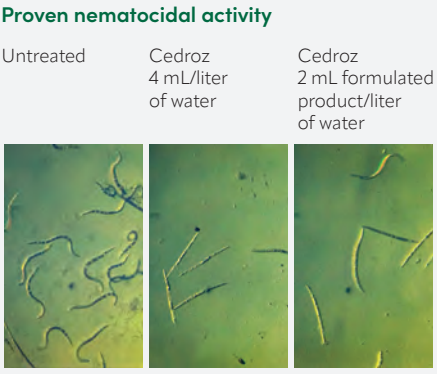
Key benefits

- No quantifiable residues
- Very short preharvest interval (PHI ≤ 1 day)
- Can be used in organic farming[1]
- Flexibility and ease of application
- Multisite mode of action
- No development of resistance expected[2]
- Can be used as a part of an integrated soil care program
- No interference with pollinator activity[3]

Mode of action

Thymol and geraniol act against nematodes via diverse mechanisms. Thanks to their lipophilic nature, their primary mode of action is to accumulate in cell membranes, causing loss of integrity of the membranes due to a change in composition of fatty acids and phospholipids with consequent lysis, release of cellular substances and, ultimately, death of the cell.

Proven nematocidal activity



Efficacy tests

High-tech formulation

The Cedroz formulation, patented by Eden Research plc, uses natural microencapsulation technology. This innovative system does not use emulsion solvents, enhancing its sustainability performance profile. Once applied to the soil, the capsules provide modulated and gradual release of the two terpenes through the microporosity of the capsule walls.

Thymol and geraniol → Encapsulation in aqueous solution → Release of the terpenes after application

Technical specifications

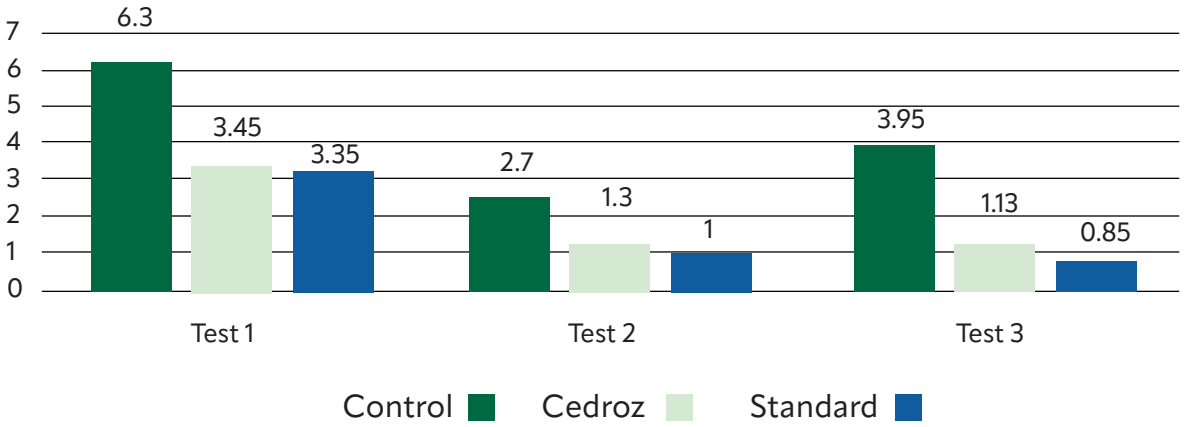
Active substance	Thymol 41 g/L + geraniol 121 g/L
Formulation	CS capsule suspension
Crops	Tomato, bell pepper, eggplant, cucumber, squash, melon, watermelon, pumpkin, strawberry
Adversity	Root-knot nematode (*Meloidogyne* spp.)
Dose	9 L/hectare
Preharvest interval	≤ 1 day
Residues	No quantifiable residues
CLP	H317 – May cause an allergic skin reaction H318 – Causes serious eye damage H412 – Harmful to aquatic life with long-lasting effects
Number of applications	From 1 to 6, according to the degree of infestation and technical positioning of the treatment program
Period of use	From planting to harvesting

[1]According to Council Regulation (EC) No. 2018/848 of 30 May 2018 on organic production and labelling of organic products. Geraniol and thymol listed in Commission Implementing Regulation (EU) 2021/1165 of 15 July 2021, authorizing certain products and substances for use in organic production and establishing their lists.

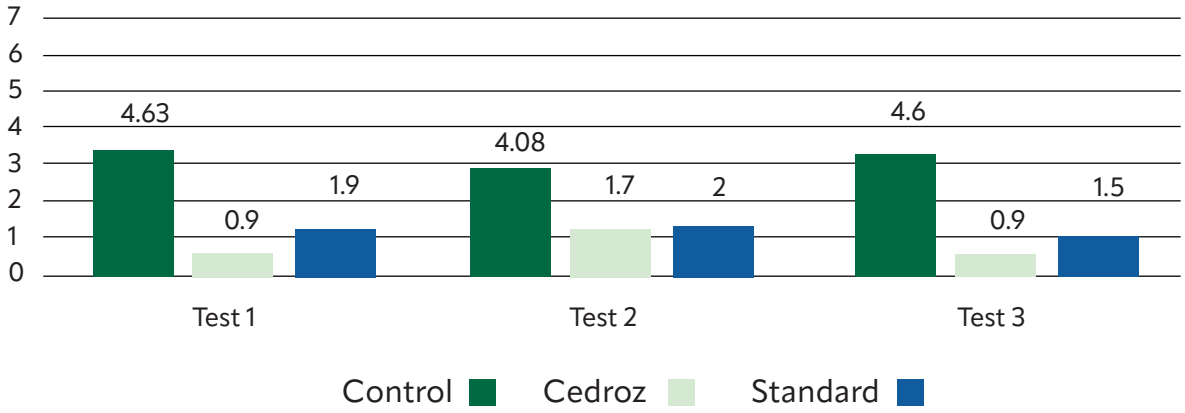
[2]Thymol and geraniol are contact-action nematicides. Due to their mode of action, no concerns with resistance or cross-resistance are expected.

[3]Acute risk to honeybees via oral or contact exposure is demonstrated to be acceptable with HQ values below the trigger of 50. No chronic bee data is required due to the rapid degradation of both active substances and lack of exposure from soil drip irrigation.

Degree root damage, Zeck scale 0–10



Degree of root damage, Zeck scale 0–10



Instructions for use

- Apply Cedroz to soil using the existing irrigation system.
- It is crucial to have an irrigation system that applies the product uniformly with the distribution lines close to the plants.
- It may be helpful to use dual piping on sandier soils.
- For a high degree of efficacy, apply Cedroz in the concentration of 225–450 mL per 100 liters irrigation water (0.225%–0.450%), using between 2,000 and 4,000 liters per hectare, respectively.
- Cedroz must be applied on damp ground using irrigation volumes sufficient to distribute the product over the full stretch of land containing the roots.
- Distribute approximately 50% of the volume of irrigation water to be used and apply Cedroz afterward, concluding the irrigation cycle with the remaining 30% of clear water.

For more information, visit **eastman.com/cedroz**.

EASTMAN

Eastman Corporate Headquarters
P.O. Box 431
Kingsport, TN 37662-5280 U.S.A.

U.S.A. and Canada, 800-EASTMAN (800-327-8626)
Other locations, +(1) 423-229-2000

eastman.com/locations

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