

# nemastar<sup>®</sup>

## Biological control of *Capnodis tenebrionis* with *Steinernema carpocapsae*

### Life cycle

*Capnodis tenebrionis* is a major pest in Mediterranean stone fruit orchards (peaches, plums, apricots, cherries etc). It attacks roots and stem. The life cycle lasts 13 months. Adult females oviposit from June to August around the trees. Larvae migrate to the roots and tunnel the xylem towards the stem during autumn and winter. In August new adults emerge and feed on leaves. Adults overwinter in the soil and emerge again in April for another cycle of oviposition.

### Application

nemastar<sup>®</sup> is effective against all stages including adults after pupation. It is applied through drip irrigation, drench or soil injection in April/ May and September/October, when soil humidity is high. The dose rate is 1-3 million nematodes per tree applied in at least 30 liters of water. For best results irrigate before and after application.

### Efficacy

nemastar has been successfully used on many thousand hectares in Spain. In field trials in apricot trees the efficacy ranged from 75 – 90%<sup>1</sup>, independent from the application method. For long term suppression of the pest it is necessary to apply three years in a row.

<sup>1</sup> Martínez de Altube M, Strauch O, Fernandez De Castro G, Martínez Peña A (2008) Control of the flat-headed root borer *Capnodis tenebrionis* (Linné) (Coleoptera: Buprestidae) with the entomopathogenic nematode *Steinernema carpocapsae* (Weiser) (Nematoda: Steinernematidae) in a chitosan formulation in apricot orchards. *BioControl* 53:531-539

**Further information needed?  
Please contact us!  
We will be happy to answer  
your questions!**

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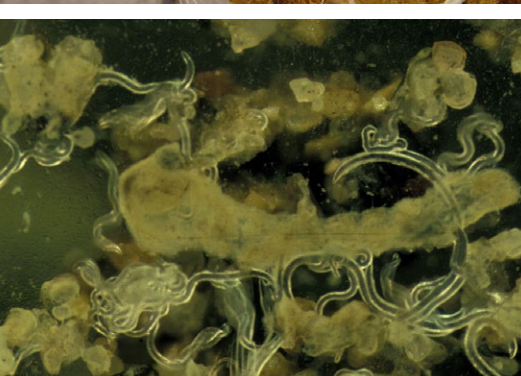
**Capnodis tenebrionis**

Adults emerge in April. From June to August females lay hundreds of eggs below the tree canopy



**Capnodis larvae**

Tunnel the roots and the tree trunks between wood and bark



**Beneficial nematodes  
(Steinernema carpocapsae)**

Kill all immature stages including adults after pupation

Stage / Month	Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adults with out eggs				■					■	■		
Adults with eggs					■	■	■	■				
Eggs					■	■	■	■				
Larvae	■	■	■	■	■	■	■	■	■	■	■	■



Mean number of larvae per tree

■ nemastar 1 million / tree    ■ control

