

nemastar[®]



Biotech for Nature

Biological Control of the Flat-Headed Root Borer (*Capnodis tenebrionis*) with *Steinernema carpocapsae* nematodes

Area of application

nemastar[®] controls larvae, pupae and adults of *Capnodis tenebrionis* in stone fruit (cherry, apricot, peach, nectarine, plum, almond). The pest insect attacks roots and the stem. The life cycle lasts 13 months. Adult females oviposit from May to August in the soil around the tree. Larvae tunnel the roots towards the stem during autumn and winter and then migrate approximately 50 cm up the stem. In August new adults emerge and feed on leaves. Adults overwinter in the soil and emerge again in April for another cycle of oviposition.

Mode of action

nemastar[®] contains the entomopathogenic nematode *Steinernema carpocapsae*. Infective juveniles of the nematode actively search for host insects in galleries, the soil or the stem. Two days after invasion, the insects die and the nematodes propagate inside the insect cadaver. After two weeks, several ten thousand of infective juveniles of the next generation emerge and search for surviving insect larvae.

Application

nemastar[®] is effective against all stages except eggs. It is applied through drip irrigation, by drench or soil injection in March-May and/or September/October, when soil humidity is high and temperature >14°C. If soil is dry, irrigation before and after application is necessary. The dose rate is 1-10 million nematodes per tree. To sanitize orchards, three consecutive applications are necessary. To prevent re-infestation, one application per season in autumn is usually sufficient.

Efficacy

nemastar[®] has already been successfully used on many thousand hectares in Mediterranean countries. In field trials in apricot the efficacy ranged from 75–90%, independent from the application method (drench, drip or injection).



Capnodis tenebrionis

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



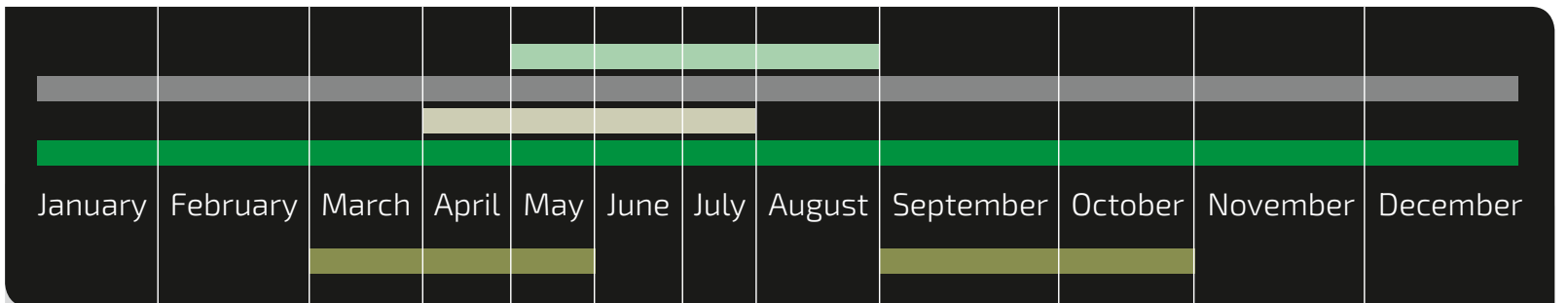
Capnodis larvae

Tunnel the roots and the tree trunks between wood and bark.



Damage

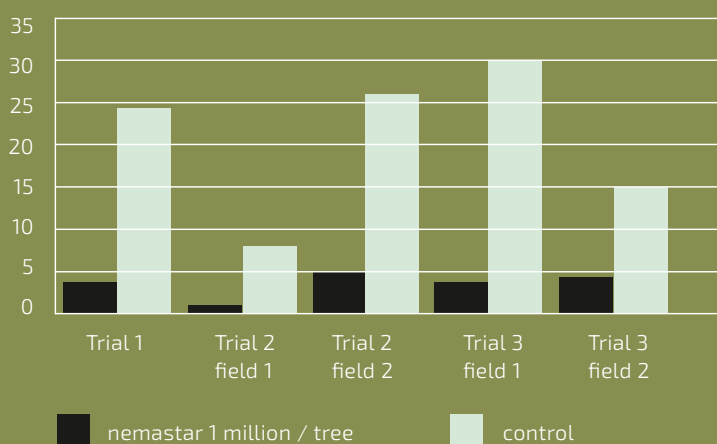
Holes in the bark caused by *Capnodis tenebrionis*.



Life Cycle of *Capnodis tenebrionis*

■ Egg
 ■ Larva
 ■ Pupa
 ■ Adult
 ■ Application

Mean number of larvae per tree



Further information needed?

Please contact us!

We will be happy to answer your questions!

e-nema GmbH
 Klausdorfer Str. 28-36
 24223 Schwentinental
 Germany

T+49 (0)4307-82 95 0
 F+49 (0)4307-82 95 14
 info@e-nema.de
 www.e-nema.de



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