

nemastar[®]

Biological control of leatherjackets (*Tipula* spp.) with *Steinernema carpocapsae*

The control agent

nemastar[®] has proven a reliable control agent on leatherjackets over the last 6 years. It contains insectpathogenic nematodes of the species *Steinernema carpocapsae* that search actively for larvae in the soil. nemastar is highly efficient against the young larvae stages in September and October. In field experiments performed by the University of Kiel up to 82 % of leatherjackets were killed by nematodes.

The benefits of nemastar[®]

- nemastar[®] is active only against insect pests and safe for beneficial insects, plants, and humans. Golf courses can stay open even during application.
- nemastar[®] eliminates the larvae, before damage occurs. Superintendants can wait until they see crane flies appear and then decide on the treatment.
- nemastar[®] also provides good control of cutworms.

”I can recommend nematodes against leatherjackets to everyone. We had 1,000 larvae per m² on several greens last spring and almost none this year. Nematodes have done a good job....”

Simon van Dijk, Headgreenkeeper Golf Club Stromberg

Application

The best time to apply nemastar[®] is two weeks after the end of the flight. At that time all larvae have hatched and are in a susceptible stage. This is between beginning of September and mid October. Soil temperatures are then still high enough (above 12°C).

Standard dose rate: 500,000 nematodes per m²

Per hectare: 10 packs of 500 million in 600 litres of water

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

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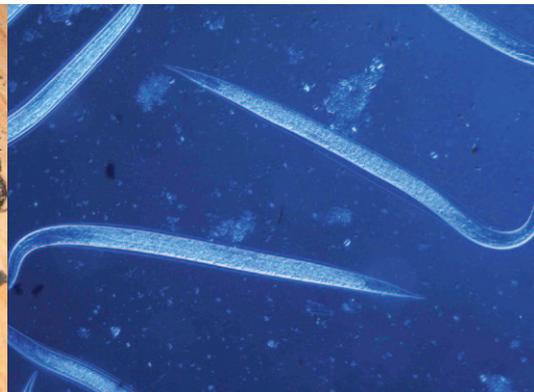
Crane fly
(*Tipula paludosa*)

Appear in August /September and lay hundreds of eggs in turf.
Larvae hatch after 10 days.



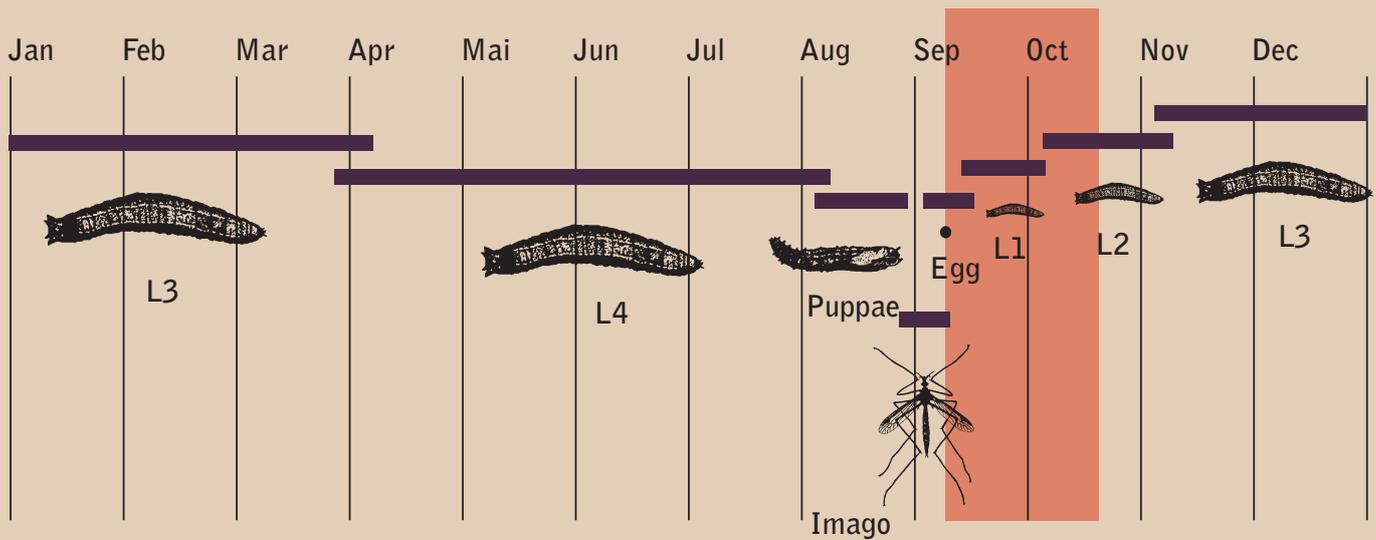
Leatherjackets

All stages less than 2 inches deep!
L1/ L2 consume green parts in autumn.
L3/ L4 feed on roots and leaves in spring.



Beneficial nematodes
(*Steinernema carpocapsae*)

Kill L1 and L2 larvae in autumn within a few days. Soil temperatures must be above 12° C.



Optimal application time
80 % control

