



Integrated Management Strategies For Maximising The Efficacy Of Entomopathogenic Nematodes

Plan and Establish

Categorise areas into priority for treatment should infestations occur.

Establish acceptable thresholds for damage within priority areas.

Establish index of pest population whereby treatment is required.

Monitor

Monitor for the emergence and live activity of adult beetles, either through hormone traps or visual observation. (May/June).

Identify species by sending samples of adult beetles through to us in the post immediately marked for Technical Department, Maxwell Amenity Ltd. Allscott Park, Allscott, Telford, Shropshire, TF6 5DY. Adult beetles should be sent in a small vial with tissue paper and can be placed into the freezer to humanely dispatch them beforehand.

Monitor soil temperatures for conditions in excess of 14 °C and not in excess of 33 °C.

Record

Record emergence activity, grub levels and distribution for reference in subsequent years.

Prepare

Take stock of nematodes 1-2 weeks prior to forecast application period to facilitate application in optimum circumstances.

Nematodes should be stored in a refrigerator at a temperature between 2-6 °C.

Apply when soil temperatures are warm (above 14 °C) and moist.

Apply 5-10 mm water to the turf the evening before treatment.

Subsequently apply 5 mm of water 1-2 hours before treatment.

Aerate the soil immediately prior to application with a sarel roller to ease nematode transition into soil contact.

Apply

Apply Entomopathogenic Nematodes 4-5 weeks post adult emergence.

Apply early in the morning, in the evening or on a cloudy day as the nematodes will be killed by UV light.

Apply when rain fall is forecast.

Remove all filters from the sprayer, these can be within the lance handle or top hat filters at the nozzle or alternatively in filter bowls within pipes after the pump.



Ensure that the sprayer is completely clean.

Apply with a penetrant wetting agent to enable more efficient passage into the soil.

It is important that the nematodes are delivered into contact with the soil as quickly as possible, excessive thatch within the turf sward will inhibit the nematodes passage into the soil.

Half fill the sprayer with clean water.

Put the contents of the pack into a bucket containing 5 litres of water (15-20 °C).

Stir well and allow to soak for 20-30 seconds.

Stir well once again and pour the entire solution into the spray tank.

Top up until the required amount of solution is in the tank.

Spray immediately after preparation over a wet surface. Maximum (12 bar pressure).

Use the whole pack in one go, as the distribution of nematodes in the pack is not homogenous.

Immediately after applying, water the grass area well (at least 2-5 litres per m²) so the nematodes are washed into the soil to reach the roots where the pests will be.

Ensure the turf area does not dry out after applying nematodes. If necessary, keep the area well-watered for at least two weeks.

Maintain

For best results Entomopathogenic nematodes require moist soils for two weeks post application.

Monitor

Remove an area of turf 5-7 days after application and observe the efficacy of the nematodes upon the grubs which should have turned a reddish colour.

Affected grubs turn from white-beige to red-brown and become slimy, as a result of which they are often difficult to find. The first grubs may die within 2-4 days of application.

Check affected areas just before and within two weeks following application. During that period, the nematodes will have reproduced and killed a greater percentage of grubs. The effect is dependent on the soil temperature and the stage of development of the grub.

Re-apply

If conditions were not favourable and pest index has not fallen to acceptable levels reapply as above.

Large scale infestations will often require a second application 21-28 days after first application.

Record and Review

Record efficacy of treatment and review methodology.