



# SUPERNEMOS

## BIO-INSECTICIDE



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SuperNemos are a unique mixture of natural beneficial nematodes formulated to attack several groups of insect pests aggressively. SuperNemos kill target pests within a few days of finding them. SuperNemos are harmless to the environment and beneficial insects. No specialist equipment is required for their application.

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### Pests controlled

Cabbage Whites / worm	Leatherjackets
Carrot Fly	Strawberry Root Weevil
Chafer Grubs	Other Vine Weevils
Cutworms	Wireworms
Sciaridae, better known as Fungus Gnats, & Mushroom Flies	

The range of pests controlled by SuperNemos continues to grow. Follow the link for further information  
[http://www.fpl-irrigation.com/general/SN/20.01.01\\_SuperNemos\\_efficacy.pdf](http://www.fpl-irrigation.com/general/SN/20.01.01_SuperNemos_efficacy.pdf)

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### Areas of use

Amenity plantings	Commercial Growers	Forestry replants
Nursery Stock	Ornamental Plants	Palm trees
Private Gardens	Soft Fruit	Turf
	Vegetable Crops	

The range of crops continues to grow. Please ask for crop-specific information or check on the following link.  
[http://www.fpl-irrigation.com/general/SN/supernemos\\_Crop\\_S.htm](http://www.fpl-irrigation.com/general/SN/supernemos_Crop_S.htm)

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### Storage & Handling

Never expose SuperNemos to direct sunlight. Do not allow them to freeze, or expose them to extreme temperatures. They need to breathe air. The inner packs are gas-permeable. Shake them so that the nematodes become loose in their packs. Store them in a single layer on wire shelves in a refrigerator at 2°- 5°C. Do not stack the packs. For best results apply within 1-3 days of receipt, but no later than the 'Best Before' date.

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### Calculate Your Requirements

We recommend using one of two approaches:-

If you have a known problem or a heavy infestation, use a **Single Application** at full strength.

We recommend a **Split Application**, i.e. two applications at half that strength wherever possible, because this achieves the best control of successive generations of pests.

The attached table calculates the number of packs of SuperNemos required. Use the following link to access the calculator on line. <http://www.fpl-irrigation.com/general/SN/SuperNemosApplicationTable.xls>

1. Select the application method which best matches your cropping situation,
2. Enter your numbers in the yellow boxes.
3. The result calculates the number of packs of each size required, for either the single application or the "split application" method, as above. Select the pack sizes which you wish to use.
4. For a Split Application, make the second application 14- 21 days after the first one.

To keep the proportions of the nematode mixture constant, always use entire packs. If that produces a surplus of stock solution, apply it at 25% of normal dose to other planted areas or adjacent headlands. Never apply too many SuperNemos per square metre, because this can reduce the control of pests which emerge later.

Choose pack sizes which allow you to make up stock solutions which you can apply in less than 2 hours. For the best results, order as many smaller packs as you need to achieve this.

To comply with the requirements of licences issued by U. K. authorities, the total number of nematodes of any one species released for the control of pests in an individual crop shall not exceed 500,000 per square metre, up to twice in any one year. That means a total of 1,000,000 per square metre per year for any one species. As SuperNemos contains three nematodes species, do not exceed a total maximum application of 3,000,000 per square meter per annum. That is six times more than many commercial growers would use!

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## **Application – Environmental conditions**

1. Nematodes are very susceptible to ultraviolet light. Please avoid application in direct sunlight. Where application cannot be timed for hours of darkness, apply SuperNemos in shade or overcast conditions.
  2. Nematodes need moisture in the soil or growing media for movement. In dry or compacted media they may not be able to search out the target pests. Water soil or growing media the day before application and again lightly after application.
  3. Regular watering of the treated area will help the juvenile nematodes to move deeper into the soil or growing media. Care should be taken not to soak the area; nematodes require air and water.
  4. The temperature of soils / growing media must be over 10°C.
  5. Do not apply prior to or during periods of heavy rain, as nematodes may be washed away from the plants' root zone.
  6. To ensure maximum effectiveness, apply all of a stock solution of SuperNemos within 2 hours of preparation. Nematodes require oxygen; if possible use a large aquarium air pump or agitate stock solution to provide this. Alternatively stirring the stock solution every 10 minutes will suffice for smaller batches.
  7. Nematodes work best when applied directly to the soil / growing media around the target plant or in the target area.
  8. Do not spray on the aerial parts of plants unless specific insect pests have been identified on them. If you use overhead irrigation systems for application, wash foliage clean afterwards.
  9. Nematodes may be adversely affected by high conductivities. Please apply them in plain water.
  10. Applications of granular fertilisers are best avoided for two weeks prior to and post nematode application. Moderate organic fertilisers may be applied 3-4 days before or after the application of nematodes.
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## **Application Method**

SuperNemos can be applied through existing application equipment, irrigation systems, by hose or by watering can. If applying them through commercial irrigation systems, remember that nematodes are air-breathing. It helps if you install a venturi after the dosing equipment to oxygenate the water supply. To protect Super Nemos from ultraviolet light and desiccation, use plain water to wash them off foliage and into the growing medium.

When using sprayers or other pressurised systems, the ideal pressure is 3 Bar / 45 p.s.i. or less. Do not exceed 5 Bar / 75 p.s.i., as that will harm nematodes. If using drip systems for irrigation, ensure no restrictions of 65 microns or smaller are present. It is best to remove fine filters while injecting nematodes, so that there is no chance of blocking them or causing physical damage to the SuperNemos.

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## **Stock Solution**

1. The volume of stock solution will vary depending on of the delivery method.
2. Measure sufficient clean tap water into a generously sized container for your stock solution.
3. Empty the entire contents of the SuperNemos pack into the stock container. Large quantities of nematodes will often cling to the packaging, so take care to rinse all residues out of the pack.
4. Stir the solution well before use.
5. Use the stock within 2 hours, remembering to stir it every 10 minutes.

## Application Rates

	Per square metre	Per litre Compost	Soft Fruit Replant
Single Application	500,000 per application	5000 per litre per application	15,000 per plant per application
Split Application	250,000 per application, on 2 occasions 14-21 days apart	2500 per litre per application, on 2 occasions 14-21 days apart	7,500 per plant pre-application, on 2 occasions 14-21 days apart

Ensure the growing medium or soil is moist before the application. After the application, either rainfall or irrigation with plain water must follow, to help the SuperNemos to disperse evenly. One standard irrigation cycle is sufficient for this. Do not over-irrigate.

### Principles for application by injector, when using a hose and rose.

1. For a single application apply 500,000 SuperNemos / m<sup>2</sup>.
2. Use your injector set to its' strongest solution (e.g. Small Dosatrons @ 1.6%)
3. Apply SuperNemos in enough water to make the soil / growing medium glisten.
4. After applying SuperNemos don't forget to water them in, sufficiently.

### In Practice

1. Measure the area to be treated.
2. For a single application provide 500,000 SuperNemos / m<sup>2</sup>
3. Measure your flow rate (e.g. Dosatron 2.5, 3.5 etc. = ½ litre per 2 clicks, or use a bucket.)
4. Mark a test area, (say 10m<sup>2</sup>) and time how long it takes you with your Dosatron to make that area glisten.
5. Calculate how much water that took. 
$$\frac{(\text{Flow Rate} \times \text{Time})}{\text{Area}} = \text{litres per sq. m}$$
6. Multiply litres / m<sup>2</sup> x total area to be treated = volume of water to be applied to the area.
7. Calculate the volume of stock solution required (i.e. total volume x injector setting e.g. 1.6%)
8. Make up as much stock solution as you can apply in under 2 hours, and either stir or aerate it.
9. Apply it ! (But don't forget to check your actual application rate.)

## Active Ingredients

A mixture of selected beneficial juvenile nematodes in an inert carrier.

*Heterorhabditis bacteriophora* - *Steinernema carpocapsae* - *Steinernema feltiae*

### Licensing Details:-

Scottish Natural Heritage, Suppliers Licence  
 National Resources Wales, Suppliers Licence  
 National Resources Wales, Growers Licence  
 Dept. for Environment, Foods & Rural Affairs, England, Suppliers Licence  
 Dept. for Environment, Foods & Rural Affairs, England, Growers Licence  
 Northern Ireland Environment Agency  
 The organic status of Supernemos is certified by The Organic Trust

Licence Number : 34274  
 Licence Number: 62758aS:OTH:WCA:2015  
 Licence Number: 62758aP:OTH:WCA:2015  
 Licence Number: NN-BCA\15\03S  
 Licence Number: NN-BCA\15\03G  
 Licence Number: PCO/8/15 1665  
 Reference CP 312

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