Heterorhabditis bacteriophora (entomopathogenic nematodes)

For control of black vine weevil larvae (Otiorhynchus sulcatus)

■ General information
Black vine weevil populations can be reduced in their larval stage by using insect parasitic nematodes. These nematodes are about 0.7mm long, they penetrate their hosts and release a bacterium, which kills the larva. Nematodes are safe for humans and pets.

■ Application – important points
- Pay attention to soil temperature: nematode activity starts when the soil reaches 12 - 15°C.
- Nematodes are alive: sunlight and heat will dry and kill them. You should apply them when cloudy or in the evening.
- Nematodes can only move if the soil is moist enough: it is necessary to water the soil after application, and to keep it moist for about two weeks.

■ Application period

<table>
<thead>
<tr>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
</tr>
</thead>
</table>

■ Dosage

<table>
<thead>
<tr>
<th>Pomiculture</th>
<th>young pomiculture</th>
<th>0.5 million/ m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viniculture</td>
<td>young vine</td>
<td>0.5 million/ m²</td>
</tr>
<tr>
<td>Ornamental plants</td>
<td>groves, bushes</td>
<td>0.5 million/ m²</td>
</tr>
<tr>
<td></td>
<td>pot-/ container plants and troughs</td>
<td>0.1 – 0.2 million/ 10 litres</td>
</tr>
<tr>
<td>Soft fruits</td>
<td>strawberries, huckleberries, raspberries</td>
<td>40,000 nematodes/ plant (drip irrigation: 70 – 80,000 nematodes per plant)</td>
</tr>
</tbody>
</table>

■ Preparation of the spray mixture
Fill a 10 litre bucket with water. Open the bag of nematodes and tip the contents into the bucket. Wash the bag out carefully and stir the mixture well. The dilution of this concentrated mixture depends on the application method and the pack size.

■ Application methods

<table>
<thead>
<tr>
<th>AquaNemix 2% (nematode application device for hosepipe)</th>
<th>See directions for use of AquaNemix 2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drip irrigation</td>
<td></td>
</tr>
<tr>
<td>small packs (5 million H.b./ 10 m²)</td>
<td>apply directly with a 10 litre sprayer</td>
</tr>
<tr>
<td>medium packs (50 million H.b./ 100 m²)</td>
<td>put one litre of the concentrated mixture into a 10 litre sprayer and fill it up with water. A medium pack makes 100 litres of spray mixture.</td>
</tr>
<tr>
<td>large packs (250 million H.b./ 500 m²)</td>
<td>Apply as with medium packs, Irrigate the treated area immediately after the application in order to wash the nematodes into the soil.</td>
</tr>
</tbody>
</table>

Note: The pressure should be about 5 bar. To apply the required dose of nematodes an increase in dose by about 1.5 times is recommended because of loss of nematodes in the system. The actual dose of nematodes depends on the type (T-Tape recommended) and condition (calcinations!) of the system.

<table>
<thead>
<tr>
<th>Spreader</th>
<th>The die diameter should be a minimum of 1.0 mm, pressure between 2 and 5 bar, hollow cone nozzle recommended.</th>
</tr>
</thead>
</table>

■ Attention
1. Clean tank well, especially after insecticide application.
2. To prevent nematode damage or clogging, remove all filters and sieves.
3. Keep agitator running during application to prevent nematodes sinking to the bottom of the spray tank.
4. The stock should be applied immediately after preparation.
Heterorhabditis bacteriophora (entomopathogenic nematodes)

For control of black vine weevil larvae (Otiorhynchus sulcatus)

- **Storage**
  - Use nematodes as soon as possible after receipt.
  - See package for expiry date
  - Storage temperature after receipt: 2 - 6 °C in the dark
  - Do not freeze the product
  - Do not store mixed suspension

- **Precaution**
  Keep away from children. Wash face and hands after handling.

- **Limitation of liability**
  The instructions for use are a general guideline. Numerous factors, such as application technique, population density, incorrect storage and failure to observe the required waiting period after a chemical control, can influence the efficiency of the product. Andermatt Biocontrol AG cannot be held responsible for any risks. Please follow the instructions carefully or ask for help. Liability is disclaimed for insufficient quality or possible damage arising from circumstances outside of our jurisdiction.

- **Contact**
  For advice on the use of nematodes please contact:

  Andermatt Biocontrol AG
  Stahlermatten 6
  CH-6146 Grossdietwil
  Tel ++41 (0)62 917 51 25
  Fax ++41 (0)62 917 50 06
  sales@biocontrol.ch, www.biocontrol.ch