

Mail Order Suppliers of Biological Controls for Home Gardeners

RHS Gardening Advice, April 2023

How and what to order

Suppliers will usually provide advice on suitable products. When contacting firms, describe:

- the size of the greenhouse or area to be treated
- main type of plants grown
- the problem and its extent
- growing conditions (an image can be useful)

These factors will determine the quantity of predators, parasites (parasitoids) or nematode product required.

The different biological controls are usually compatible with each other and may be introduced either singly or in combination as required by the problem. Better control is sometimes achieved by a number of introductions over a period of several weeks, rather than a single introduction, especially with parasitoids. Biological controls are incompatible with most pesticides and these should be avoided.

Biological controls can sometimes be ordered or purchased through garden centres but most are supplied by mail order: being living animals with limited lifespans, most cannot be stocked in retail outlets.

The **supplier's instructions** regarding release and subsequent care of the predators or parasites **must be followed carefully**. Most products should be used immediately upon receipt. Application instructions for nematode products should be followed.

Nematode formulations available at some plant centres and other retail outlets

Two brands of nematode biological controls that have a longer shelf life are available from some plant centres in formulations. These controls are available for ants, slugs, fungus gnats, vine weevil larvae, chafer grubs and leatherjackets. These either come as sachets (Neudorff brand: Nb in suppliers list) or encapsulated formulations (NemaKnightsTM: Nk in suppliers list).

The firms listed below can supply, subject to availability, the biological controls below. The list is based on information supplied by the companies listed. In most cases the brand names of products have not been listed. This list is not exhaustive and other companies may exist, as may other biological controls.

Organism and the available biological control options

Organism	Biological Control	Suppliers
Ants	Ant nest nematode - Steinernema feltiae	1,2,5,6,7,8,Nb,Nk
Aphids (various species)	Aphid midge – Aphidoletes aphidimyza	3,7
. , ,	Aphid parasitoids – Aphidius, Praon or Aphelinus	1,2,3,4,6,7,8
	Aphid parasitoids- Ephedrus cerasicola	4
	Lacewing larvae – Chrysoperla carnea	1,3,4,5,6,7
	Rove beetle – Atheta coriaria	3,7
	Two-spot ladybird – Adalia bipunctata	1,2,3,4,6,7,8
Broad mite	Predatory mite – Amblyseius andersoni	2,3,4,7
Carrot fly	[Spring] S. feltiae nematode	2,3,6,7,8,9
•	[Summer] S. carpocapsae nematode	2,3,6,7,8
Organism	Biological Control	Suppliers

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Caterpillars (including box tree moth, cabbage whites, codling moth, cutworms, plum fruit moth)	Various products containing – <i>S. feltiae</i> and <i>S. carpocapsae</i> including Nemasys Fruit and Veg protection nematodes	1,2,3,4,5,6,7,8,9
Chafer grubs in lawns	Predatory bug – Macrolophus pygmaeus Chafer grub nematode – Heterorhabditis bacteriophora	2 All
Citrus red spider mite (Panonychus citri)	Citrus spider mite predator – Amblyseius species	2,3,5,6,7
Diaspid scales (Glasshouse)	Ladybird – Chilocorus nigritus Ladybird – Rhyzobius lophanthae	3 3
Fuchsia gall mite	Predatory mite – <i>Amblyseius andersoni</i> Predatory mite- <i>Amblyseius cucumeris</i>	2,3,5,6,7 2
Fungus gnats/sciarid flies	Fungus gnat mite – <i>Hypoaspis miles</i> Fungus gnat nematode – <i>S. feltiae</i> Mighty Mite – <i>Macrocheles robustulus</i> Rove beetle – <i>Atheta coriaria</i>	2,3,4,5,6,7 2,3,4,5,6,7,8,9,Nk 3 3,4,7
Glasshouse mealybugs (Pseudococcus and Planococcus spp.)	Lacewing larvae – Chrysoperla carnea	2,6,7
З рр.,	Mealybug ladybird – <i>Cryptolaemus montrouzieri</i> Mealybug parasites – <i>Leptomastix</i> & <i>Leptomastidea sp., combined with Cryptolaemus</i>	1,2,3,4,5,6,7,8 3
	Mealybug parasites – Leptomastix & Anagyrus sp.	3
Glasshouse red (two spotted) spider mite (<i>Tetranychus urticae</i>)	Predatory mites – <i>Amblyseius</i> species	1,2,3,4,5,6,7,8
	Glasshouse red spider mite predator – Phytoseiulus persimilis Para haetta Athata agricuia	1,2,3,4,5,6,7,8
	Rove beetle – <i>Atheta coriaria</i> Predatory bug – <i>Macrolophus pygmaeus</i>	7 2
Glasshouse whitefly (<i>Trialeurodes</i> vaporariorum)	Glasshouse whitefly parasitoid – Encarsia formosa	1,2,3,4,5,6,7,8
vaporariorarii	Predatory mite <i>Amblyseius andersoni</i> as whitefly egg predator	2,3,7
	Predatory bug – Macrolophus pygmaeus	4
Leafhopper (various species)	Predatory bug – Macrolophus pygmaeus	2
Leaf miner (various species)	Predatory bug – Macrolophus pygmaeus	2
Leatherjackets	Leatherjacket nematode – S. feltiae Leatherjacket nematode – S. carpocapsae	1,3,4,5,6,7,8,9 3,5,7
Slugs	Slug nematode – <i>Phasmarhabditis hermaphrodita</i>	1
	Slug nematode – Phasmarhabditis californica	3,4,5,6,7,8,9
Scale – soft (<i>Coccus hesperidium</i>) & hemispherical (Saisettia coffeae)	Nematode – S. feltiae	1,6,7,8
Tarsonemid mite	Predatory mite – Amblyseius cucumeris	2,3,4,5,6,7
Thrips (various species)	Mighty Mite – Macrocheles robustulus Nemasys Fruit and veg nematodes containing S. feltiae & S. carpocapsae	3,7 1,3,5,6,7,8
	Exhibitline SF containing S.feltiae Predatory bug – Orius laevigatus	4
	Predatory mite – <i>Amblyseius</i> species	3,4,7 1,2,3,4,5,6,7
	Predatory mite – <i>Hypoaspis</i> species	3,5,6,7
Vine weevil larvae (Otiorhynchus sulcatus)	Vine weevil nematode – S. feltiae	3,7
	Vine weevil nematode – <i>S. kraussei</i> Vine weevil nematode – <i>H. bacteriophora</i>	1,3,4,5,6,7,8,9 1,2,3,4,5,7
	Combined vine weevil nematodes – H. bacteriophora & S. feltiae	5
	Combined vine weevil (encapsulated) – S. kraussei & S. feltiae	Nk
Vine weevil adults	Adult Vine Weevil trap (contains Steinernema carpocapsae)	4,5,6,7,8,9
Various vegetable pests (including gooseberry sawfly and wireworm)	Nemasys Fruit and Veg Protection nematodes – containing <i>S. feltiae</i> and <i>S. carpocapsae</i>	1,2,3,5,6,7,8,9

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Various beetles including viburnum beetle larvae, vine weevil and asparagus beetle	Nematode – S. carpocapsae	3,7
Wireworm	Nematode – H. bacteriophora	6,7

Suppliers/Distr	ributors Address	Contact	Website
1. Agralan Ltd	The Old Brickyard, Ashton Keynes, Swindon, Wiltshire SN6 6QR	01285 860015 sales@agralan.co.uk	<u>agralan.co.uk</u>
2. Andermatt Home and Garden	Unit 30 Mackley Industrial Estate, Henfield Rd, Small Dole, Henfield, BN5 9XR	01273 082195 contact@andermattgarden.co.uk	andermattgarden.co.uk
3. Dragonfli Ltd	Unit 5 Cherry Tree Farm, Wethersfield Rd, Sible Hedingham, Essex CO9 3LZ	01376 563322 sales@dragonfli.co.uk	<u>dragonfli.co.uk</u>
4. Fargro	The Garden Superstore, Vinery Fields, Arundel Rd, Poling, Arundel, West Sussex BN18 9PY	01903 258200 help@thegardensuperstore.co.uk	thegardensuperstore.co.uk
5. Gardening Naturally Ltd	Unit 27 Blackworth Industrial Estate,Highworth,S windon SN6 7NA	01285 760505 sales@gardening-naturally.com	gardening-naturally.com
6. Green Gardener	B12 Base Business Park, Rendlesham Suffolk IP12 2TW	01493 750061 orders@greengardener.co.uk	greengardener.co.uk
7. Ladybird plantcare	Ditchling Rd, Brighton,East Sussex BN1 6JF	01825 724621 plantcare@ladybirdplantcare.co.uk	ladybirdplantcare.co.uk
8. Pippa Greenwood	99 Wey Hill, Haslemere, Surrey GU27 1HT	info@pippagreenwood.com	pippagreenwood.com
9. Simply Seed	Moor Lane, Gotham, Nottingham NG11 0LH	0115 7270606 help@simplyseed.co.uk	simplyseed.co.uk

Formulations of nematodes available in some plant centres and other retail outlets			
Nb. Neudorff	DLF Seeds Ltd Thorn Farm, Evesham Road, Inkberrow, Worcestershire WR7 4LJ	01386 791113 info@johnsonslawnseed.co.uk	www.dlf.co.uk
Nk. NemaKnights™	Decco Ltd, Votec House, Hambridge Lane, Newbury, Berkshire RG14 5TN	01635 556600 deccoinfo@decco.co.uk	www.decco.co.uk