

Beneficial Nematodes

Nematodes are microscopic round worms that are found everywhere in nature. Fortunately for us, there are some that will happily snack on a number of soil dwelling pests. Beneficial nematodes are a great organic option to help control infestations of such pests as fleas, root weevils, crane fly, cutworms, grubs and others.

HOW THEY WORK: Beneficial nematodes live in warm, moist soil, and prey on insects that spend some part of their life cycle underground (usually larval or grub stages, but also some adult insects.) They enter the pest through a body opening or by boring through a body wall. Once there, they release a bacteria that kills the host within 48 hours. After feeding and reproducing, the nematode exits in search of new prey. Beneficial nematodes do not harm humans, animals, or plants, and are completely compatible with other beneficial insects. They do not harm earthworms.

HOW THEY COME: Beneficial nematodes are live critters that are kept refrigerated until ready to be used. They come by the millions on a wet sponge or in containers filled with a carrying medium such as vermiculite. Nematodes need to be applied as soon as possible after you get them (store them in the fridge if you can't use them right away). It is important to remember that heat and sunlight will kill them, so handle your nematodes properly!

HOW & WHEN TO APPLY: Apply in early morning or late evening for best results, and **WATER THE SOIL AFTER APPLICATION!** This helps the nematodes move down into the soil as quickly as possible and provides the moist environment they prefer. Some pesticides will kill nematodes, so don't use them at the same time or within a close span of one another. Nematodes are most effective when soil temperature is above 60°F. They're usually not effective if soil is below 50°F. Repeat applications can be made in spring, summer, and fall. Check the packaging for information regarding coverage rates. Nematodes can be used at different concentrations depending on your needs.

Topdressing: Mix the contents of the container with a gallon of cold water, stir and let stand about 30 minutes. Restir and add 5 to 6 quarts of vermiculite, peat moss, or sandy humus. Apply this to affected areas after sundown and water thoroughly. For new plants or transplants, apply around the roots.

Spraying: Mix the contents of the container with a gallon of cold water, stir and let stand about 30 minutes. Water the area to be treated before applying. Use a watering can, hose sprayer, or pump sprayer set at the coarsest or highest setting to reduce damage to the nematodes. Restir the mixture and pour into the sprayer, using a strainer or piece of cloth to filter out the sponge or carrying medium the nematodes came in. Agitate the water while spraying and before pouring, because the nematodes will sink to the bottom.

Potted plants: You can dunk potted plants in a bucket of water with nematodes (including house plants with a bad case of fungus gnats). Retreat potted plants every 30 to 60 days.
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RESULTS:

Keep in mind that nematodes are microscopic and working underground, and you generally won't see positive results for two to three weeks. You're also targeting the next generation of the insect you're trying to control, rather than the current population, so keep your insect life cycles in mind. While you can apply nematodes annually to help with insect control, remember that cultural and environmental conditions may favor the flourishing of certain pests. Balancing management of those conditions with biological controls such as beneficial nematodes will give better results!

Additional reading:

<https://extension.oregonstate.edu/news/control-sneaky-root-weevils-beneficial-nematodes>

<https://extension.wsu.edu/asotin/gardening/beneficial-insects/>