

Grasshopper Control in the Home Landscape and Garden

Grasshopper Biology

Grasshoppers overwinter as eggs laid in clusters of 30 to 60 in cracks in the soil. The eggs spend 6 to 8 months in the soil, hatching in early spring. Young nymphs begin feeding immediately and after five molts, they reach maturity (usually mid-summer to fall).

Damage is usually greatest in yards or gardens bordered by pastures or roadways. Once wild grasses and other plants have dried out, grasshoppers migrate to irrigated areas. Green lawns and gardens provide an ideal 'oasis' for the migrating grasshoppers.

Cultural Control

Tillage can be an effective control method if timed accordingly. Fall tillage or early spring tillage, to a soil depth of 5 inches, before hatching can give excellent control. Tillage works by burying grasshopper eggs deep enough in the soil that hatch is prevented and/or bringing eggs to the surface where they are exposed to the drying action of sun and wind. Tillage can also be a means of deterring females from laying eggs, making the soil unattractive to egg-laying females, as well as destroying already laid eggs.

Barriers can also be used in home garden areas to limit grasshopper access and damage. Row-covers, like Reemay or Agribond, can be used to create a physical barrier between crops and grasshoppers.

Biological Control

Grasshoppers have many natural enemies, including many bird species, coyotes, skunks, snakes, and spiders. Many insect, mite, and nematode species are also predators. Care should be taken to avoid disrupting these natural methods of control with unnecessary and poorly timed insecticide sprays.

Additionally, *Nosema locustae* a microsporidian parasite that causes disease in grasshoppers can be used effectively for control (sold under tradenames such as: Nolo bait, Grasshopper Spore, and Semaspore). It is best applied when grasshoppers are young, from nymph to 3rd instar (development) stage, and is most effective on medium to low population levels. Due to the nature of its mechanism of action, it can take up to 6 weeks for good control.

Chemical Control

There are two methods for using insecticide sprays for grasshopper control. The first is to create a border against grasshopper invasion. Applying insecticides in a wide band bordering the yard or garden facing infestation sources may keep invading populations under control. Secondly, the last line of defense is to directly spray the plants that need to be protected.

Active Ingredient	Trade name(s)	Site for application
Acephate	Ortho Systemic Insect Killer	Ornamentals only
Diflubenzuron	Dimilin (restricted useonly)	Pasture/Range
Carbaryl	Sevin and others	Pasture/Yard/Garden
Esfenvalerate	Ortho and others	Yard/Garden
Cyfluthrin	Bayer Advanced Lawn and Garden	Yard/Garden
Pyrethrins	Safer pyrethrin and others	Yard/Garden
Bifenthrin	Ortho Home-defense	Yard
Permethrin	Gordon's Bug No-More	Yard/Garden
Neem extract	Neemix and others	Yard/Garden
Malathion (Organophosphate)	Green Light 50% Insect Spray	Yard /Garden

ALWAYS read and follow the instructions printed on the pesticide label. The pesticide recommendations in this UI publication do not substitute for instructions on the label. Pesticide laws and labels change frequently and may have changed since this publication was written. Some pesticides may have been withdrawn or had certain uses prohibited. Use pesticides with care. Do not use a pesticide unless the specific plant, animal or other application site is specifically listed on the label. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

Trade Names--To simplify information, trade names have been used. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.