



From the Toxipedia website in original form. Last updated by Toxipedia in 2011.

Healthy Gardening, Healthy You Guide

This guide provides users with an informative resource on pest control, chemical toxicity, and the pests themselves.

This document covers these topics:

- Insect controls
- Slug and snail controls
- Disease controls
- Weed controls
- Moss controls
- Mammal controls

The information in each section below uses scouring methods to categories products and methods by toxicity, safety and health outcomes. Please refer to the section below when reviewing each section.

Choosing a Control Method

Cultural, physical, and capture/ mechanical methods are the least hazardous, and should be considered before chemical options.

Products exempt from EPA registration are low toxicity chemical options. Consider these before EPA-registered options.

EPA-registered pesticide products are the most hazardous of these three options. This category is further categorized by our safety score:

- Lowest Hazard: Lowest toxicity or environmental hazards. Consider these first.
- Moderate Hazard: Moderate toxicity and environmental hazards. Choose products with health and environmental ratings posing the least hazards to your site.
- Highest Hazard: Highest toxicity and environmental hazards. Avoid product or consider as a last resort.

About Safety Scores

EPA-registered pesticide products have hazard ratings for the following health and environmental categories. The tables are based on evaluation criteria reviewed by scientists and other experts. The hazard rating system uses information from product labels, material safety data sheets and toxicology references. The Safety Score is determined by the average of all applicable scores. The highest possible score is 3.00, and the lowest is 1.00.

Short-term Health Hazard-

Poses hazards from eating, drinking, or breathing fumes from the product or getting it on skin or in eyes. Based on U.S. Environmental Protection Agency toxicity categories for pesticides.

- 3 : Nontoxic to moderately toxic or irritating to skin or eyes. Label includes the term "caution."

- 2 : Very toxic or severe-but-reversible skin or eye irritant. Label includes the term "warning."
- 1 : Extremely toxic. Label includes the term "danger."

Long-term Health Hazard

Contains ingredients that one or more government agencies have listed as causing cancer, reproductive toxicity or other delayed health effects. Rating is based on the scientific certainty that the chemical can cause these effects rather than the likelihood that they will occur from limited exposure.

3 : All ingredients are known. Product contains no ingredient listed as a known or suspected human carcinogen (chemical that causes cancer) or reproductive or developmental toxicant.

2 : Product contains possible carcinogen or ingredient that has been associated with long-term health effects.

1 : Contains known, likely or probable human carcinogen or listed reproductive or developmental toxicant.

Insect Controls

A healthy garden has fewer pest problems. If you choose plants that are right for your yard and keep them healthy, your garden is less likely to have insect problems. Sometimes, even the best cared-for gardens have aphids, cutworms or other pest infestations, but there are steps you can take to deal with the problem naturally. If you decide to use a pesticide, the following tables will help you choose the safest products.



The meadow hawk eats aphids and other garden pests.

Cultural, Physical, and Capture Methods (Insects)

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/Method | Active Ingredient(s) |
|---------------------------|----------------------|
| Beneficial bugs/ ladybugs | |
| Squish/ swat/ stomp | |
| Water spray | |
| Victor® Window Fly Trap | sticky glue |

| | |
|--|---|
| Mountain Bluebird® Spider Elimination Kit | sticky glue |
| Pic® Yellow Jacket & Wasp Trap | none |
| Pic® Fly Ribbon | rosin-rubber mineral oil |
| Pic® Window Fly Trap | glue trap |
| Safer® Sticky Whitefly Trap | sticky glue |
| Seabright Laboratories Sticky Thrip Leafminer Trap | sticky glue |
| Tanglefoot® Sticky Tree Bands | natural gum resins |
| Tanglefoot® Tree Tangle Foot Pest Barrier | castor oil, natural gum resins, vegetable wax |
| Victor® Flycatcher Fly Ribbon | sticky glue |
| Bug zappers | electronic |
| Oak Stumps Farms® Apple Maggot Trap | bait |
| Oak Stumps Farms® Fly Lure | bait |
| Oak Stumps Farms® Codling Moth Trap | bait |
| Oak Stumps Farms® Mosquito and Flying Insect Bait Trap | pheromone bait |
| Oak Stumps Farms® Yellow Jacket & Wasp Trap (or Lure) | fruit juice bait |
| Raid® Yellow Jacket Trap | attractant |
| Raid® Disposable Yellow Jacket Trap | attractant |
| Rescue® Yellow Jacket Trap (and Attractant) | attractant |
| Rescue® Fly Trap (and Attractant) | attractant |
| Safer® Gypsy Moth Trap | pheromone bait |
| Oak Stumps Farms® Aphid Chaser | pheromone biochemical |
| Tanglefoot® Codling Moth Trap | pheromone bait |
| Victor® Fly Magnet™ Bag Trap | pheromone bait |
| Victor® Poison-Free® Hobo Spider Trap | pheromone bait |
| Victor® Yellow Jacket Magnet® Bag Trap | attractant |
| Victor® Poison-Free® Disposable Fly Traps with Bait | food bait |

Products Exempt from EPA registration

These include low-toxicity pesticide products exempt from the EPA registration process. All are considered low risk, but note cautions.

| Product Name | Active Ingredient(s) |
|--|----------------------|
| Green Light® Organic Rose & Flower Spray RTU | rosemary oil |
| Green Light® Organic Rose & Flower Spray Concentrate | rosemary oil |
| Green Light® Organic Home & Garden Insect Spray | thyme oil |

| | |
|---|--|
| New Mountain 100% Natural Sandalwood Mosquito Sticks® | citronella oil, geranoil |
| Pharm Solutions Oil Pharm Organic Summer Oil | certified organic soybean oil, rosemary oil |
| Pharm Solutions Flower Pharm | cottonseed oil, rosemary oil, cinnamon oil |
| Pharm Solutions Rose Pharm | cottonseed oil, rosemary oil, peppermint oil |
| Pharm Solutions Garlic Pharm | garlic oil |
| Pharm Solutions Veggie Pharm | garlic, peppermint oil, rosemary |
| Summit® Mosquito Dunks® | bacillus thuringiensis |
| Natural Guard® Lawn, Plant, and Pet Insect Spray | cedar oil |
| Green Light® Organic Insect Control Concentrate | thyme oil, sesame oil, clove oil |
| Off® Citronella Bucket | citronella oil |
| Organocide™ Organic Insecticide Fungicide RTU | sesame oil |
| Organocide™ Organic Insecticide Fungicide Concentrate | sesame oil, fish oil, lecithin |
| Pic® Citronella Sticks | citronella oil |
| Schawbel Colorfusion™ Citronella Candle | citronella oil |
| Scotts® Outdoor Defense Citronella Candle | citronella oil |
| Victor® Poison-Free® Ant & Roach Killer | mint oil |
| Victor® Poison-Free® Flying Insect Killer | mint oil |
| Victor® Poison-Free® Wasp & Hornet Killer | mint oil, sodium lauryl sulfate |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Lowest Hazard Control

| Product Name | Active Ingredients(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|---|-------------------------------|--------------|---------------------------|--------------------------|
| VPG® Natural Guard® Crawling Insect Control | silicon dioxide | 3.00 | 3 | 3 |
| Stinger® Nosquito® Mosquito Octenol Lure | 1-octen-3-ol | 3.00 | 3 | 3 |
| Stinger® Nosquito® 2 in 1 Power Bait | 1-octen-3-ol, lactic acid | 3.00 | 3 | 3 |
| St. Gabriel Organics Diatomaceous Earth Insect Dust | silicon dioxide, other oxides | 3.00 | 3 | 3 |

| | | | | |
|--|--|------|---|---|
| Safer® Garden Dust | bacillus thuringiensis | 3.00 | 3 | ? |
| Safer® Diatomaceous Earth | silicon dioxide | 3.00 | 3 | ? |
| Safer® Caterpillar Killer | bacillus thuringiensis | 3.00 | 3 | ? |
| Safer® Ant & Crawling Insect Killer | amorphous diatomaceous earth (silicon dioxide) | 3.00 | 3 | ? |
| Raid® Earth Options Ant & Roach Killer | eugenol, 2-phenethyl propionate | 3.00 | 3 | 3 |
| Quick Kill Mosquito Bits™ | bacillus thuringiensis | 3.00 | 3 | 3 |
| Lilly Miller® Vegol™ Year Round Pesticidal Oil Concentrate | canola oil | 3.00 | 3 | ? |
| Lilly Miller® Vegol™ Growing Season Spray Oil | canola oil | 3.00 | 3 | 3 |

Moderate Hazard Insect Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|--|--|--------------|---------------------------|--------------------------|
| Terro® Ant Dust | deltamethrin | 2.50 | 3 | 3 |
| Surefire® Crawling Insect Killer | d-Limonene, pyrethrins, potassium salts of fatty acids | 2.50 | 3 | 2 |
| Spectracide® Destroyer™ Wasp & Hornet Killer | prallethrin, lambda-cyhalothrin | 2.50 | 3 | 3 |
| Safer® Yard & Garden Insect Killer II | potassium salts, pyrethrins | 2.50 | 3 | 2 |
| Safer® Tomato & Vegetable Insect Killer II RTU | potassium salts, pyrethrins | 2.50 | 3 | 2 |
| Safer® Rose & Flower Insect Killer II | potassium salts of fatty acids | 2.80 | 3 | ? |
| Safer® Insect Killing Soap | potassium salts of fatty acids | 2.80 | 3 | ? |
| Safer® Fruit & Vegetable Insect Killer II | potassium salts of fatty acids | 2.80 | 3 | ? |
| Safer® Flying Insect Killer | d-Limonene, pyrethrins, | 2.50 | 3 | 2 |

| | | | | |
|--|--|------|---|---|
| | potassium salts of fatty acids | | | |
| Safer® BioNEEM® Insecticide & Repellant | azadirachtin | 2.80 | 3 | ? |
| Safer® 3 in 1 Garden Spray RTU | potassium salts of fatty acids, sulfur | 2.75 | 3 | ? |
| Safer® 3 in 1 Garden Spray Concentrate | potassium salts of fatty acids, sulfur | 2.50 | 3 | ? |
| Real Kill® Ant Bait | indoxcarb | 2.67 | 3 | 3 |
| Ortho Volck® Oil Spray | petroleum oil | 2.83 | 3 | 3 |
| Orange Guard® Kills on Contact | d-Limonene (orange peel extract) | 2.83 | 3 | 3 |
| Natural Guard® Spinosad Landscape & Garden Insecticide | spinosad | 2.67 | 3 | 3 |
| Monterey Garden Insect Spray | spinosad | 2.67 | 3 | 3 |
| Lilly Miller® Worry Free® Insecticidal Soap | potassium salts of fatty acids | 2.83 | 3 | 3 |
| Lilly Miller® Worry Free® Garden Insect Control | pyrethrins, canola oil | 2.50 | 3 | 2 |
| Lilly Miller® Systemic Rose, Shrub & Flower Care | acephate | 2.67 | 3 | 2 |
| Lilly Miller® Superior Type Spray Oil | petroleum oil | 2.83 | 3 | 3 |
| Lilly Miller® Hose 'n Go® Dormant Spray for Insects | petroleum oil | 2.83 | 3 | 3 |
| Hi-Yield® Turf Ranger Insect Control Granules | deltamethrin | 2.50 | 3 | 3 |
| Green Light® Tomato & Vegetable Spray RTU | neem oil | 2.80 | 3 | ? |
| Green Light® Rose Defense® RTU | neem oil | 2.80 | 3 | ? |
| Green Light® Rose Defense® II RTU | neem, pyrethrins, piperonyl butoxide | 2.50 | 3 | 2 |
| Green Light® Rose Defense® 70% | neem oil | 2.60 | 3 | ? |
| Green Light® Plant & Flower Protector RTU | neem oil | 2.80 | 3 | ? |
| Espoma® Earth-tone® Insecticidal Soap | potassium salts of fatty acids | 2.83 | 3 | 3 |

Highest Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|---------------------------------------|--------------|--------------------------|-------------------------|
| Spectracide® Bug Stop® Indoor Plus Outdoor Insect Killer | lambda-cyhalothrin | 2.40 | 3 | ? |
| Spectracide® Terminate® Termite & Carpenter Ant Killer 2 | lambda-cyhalothrin | 2.40 | 3 | ? |
| Ultra Kill™ Home Insect Killer | lambda-cyhalothrin | 2.40 | 3 | ? |
| Lilly Miller® Grasshopper, Earwig, Cutworm & Sowbug Bait | carbaryl | 2.33 | 3 | 1 |
| Ortho® Total Kill™ Lawn & Garden Insect Killer | bifenthrin | 2.33 | 3 | 2 |
| Ortho® Season Long Control Insect Killer for Lawns | bifenthrin | 2.33 | 3 | 2 |
| Ortho® Home Defense MAX® Insect Killer Granules | bifenthrin | 2.33 | 3 | 2 |
| Ortho® Bug-B-Gone MAX® Insect Killer for Lawns Granules | bifenthrin | 2.33 | 3 | 2 |
| Raid® Outdoor Ant Spikes | avermectin | 2.33 | 3 | 1 |
| Scotts® Ortho® Max Garden & Landscape Insect Killer | esfenvalerate | 2.33 | 3 | 3 |
| Spectracide® Triazicide® Insect Killer Once & Done!™ Granules | lambda-cyhalothrin | 2.33 | 3 | 3 |
| Terro® Carpenter Ant & Termite Killer Concentrate | permethrin | 2.33 | 3 | 2 |
| ThermaCELL® Mosquito Repellant Lantern | d-cis/trans allethrin | 2.33 | 3 | 2 |
| Chemsico Real Kill Ant Killer 2 | d-trans allethrin, lambda-cyhalothrin | 2.33 | 3 | 2 |
| Master Nursery® Pest Fighter® Rose & Flower Insect Spray RTU | permethrin, tetramethrin | 2.33 | 3 | 2 |
| Ortho® Total Kill™ Wasp & Hornet Killer | tetramethrin, phenothrin | 2.33 | 3 | 2 |
| Ortho® Home Defense MAX® Wasp & Hornet Killer | tetramethrin, phenothrin | 2.33 | 3 | 2 |

| | | | | |
|--|---|------|---|---|
| Scotts® Outdoor Defense Insect Killer Area Fogger | permethrin, tetramethrin | 2.33 | 3 | 2 |
| Spectracide® Garden Insect Killer | pyrethrins, piperonyl butoxide | 2.33 | 3 | 2 |
| Spectracide® Bug Stop® for Gardens | pyrethrins, piperonyl butoxide | 2.33 | 3 | 2 |
| SpectracidePRO® Wasp & Hornet Killer | tetramethrin, permethrin, piperonyl butoxide | 2.33 | 3 | 2 |
| Terro® Mosquito Killer Yard & Patio Fogger | permethrin, tetramethrin, related reaction products | 2.33 | 3 | 2 |
| Terro® Ant Killer Outdoor | permethrin, tetramethrin, related products | 2.33 | 3 | 2 |
| Terro® Spider Killer Spray | permethrin, pyrethrins, piperonyl butoxide | 2.33 | 3 | 2 |
| Terro® Carpenter Ant & Termite Killer Spray | permethrin, tetramethrin, piperonyl butoxide | 2.33 | 3 | 2 |
| Ultra Kill™ Wasp & Hornet Killer | prallethrin, lambda-cyhalothrin | 2.33 | 2 | 3 |
| Spectracide® Triazicide® Insect Killer Once & Done!™ | lambda-cyhalothrin | 2.20 | 3 | ? |
| Spectracide® Ant Shield® Home Barrier Granules 2 | lambda-cyhalothrin | 2.20 | 3 | ? |
| Terro® Ant Killer Plus Multi-purpose Insect Control 2 | lambda-cyhalothrin | 2.20 | 3 | ? |
| Hi-Yield® Kill-A-Bug II Lawn Granules | permethrin | 2.17 | 3 | 2 |
| HotShot® Ultra Liquid Ant Bait | dinotefuran | 2.17 | 3 | 3 |
| Ortho® Bug-B-Gone® MAX® Garden & Landscape Insect Killer RTU | esfenvalerate | 2.17 | 3 | 3 |

| | | | | |
|--|---|------|---|---|
| Ortho® Rose and Flower Insect Killer | bifenthrin | 2.17 | 3 | 2 |
| Ortho® Max Lawn and Garden Insect Killer Granules | bifenthrin | 2.17 | 3 | 2 |
| Ortho® Bug-B-Gone® MAX® Lawn and Garden Insect Killer Concentrate | bifenthrin | 2.17 | 3 | 2 |
| Ortho® Home Defense MAX® Termite and Destructive Bug Killer Concentrate | bifenthrin | 2.17 | 3 | 2 |
| Spectracide® Ant Shield® Home Barrier Granules | permethrin | 2.17 | 3 | 2 |
| Spectracide® Carpenter Ant and Termite Killer | permethrin | 2.17 | 3 | 2 |
| Spectracide® Triazicide® Insect Killer 2 Once & Done!™ | gamma-cyhalothrin | 2.17 | 3 | 3 |
| Spectracide® Malathion Insect Spray | malathion | 2.17 | 2 | 2 |
| Terro® Ant Killer Plus Outdoor Multi-purpose Insect Control | permethrin | 2.17 | 3 | 2 |
| Ortho® Malathion Plus® Insect Spray Concentrate | malathion | 2.17 | 2 | 2 |
| HotShot® Flying Insect Killer | permethrin, d-trans allethrin | 2.17 | 3 | 2 |
| Corry's® Bug Bait | metaldehyde, carbaryl | 2.17 | 3 | 1 |
| Ortho® Bug-Geta® Plus Slug, Snail and Insect Killer | metaldehyde, carbaryl | 2.17 | 3 | 1 |
| Repel® Outdoor Fogger, Camp Fogger | tetramethrin, related compounds, permethrin, piperonyl butoxide | 2.17 | 3 | 2 |
| Spectracide® Systemic Rose & Flowering Shrub Insect Control & Fertilizer | dinotefuran and fertilizer | 2.17 | 3 | 3 |
| Spectracide® Systemic Tree & Shrub Insect Control & Fertilizer | dinotefuran and fertilizer | 2.17 | 3 | 3 |
| Spectracide® Ant Shield® Home Barrier Insect Killer 2 | piperonyl butoxidetechnical, | 2.17 | 3 | 2 |

| | | | | |
|---|--|------|---|---|
| | pyrethrins, permethrin | | | |
| Spectracide® Commercial Wasp & Hornet Killer 2 | tetramethrin, permethrin, piperonyl butoxide | 2.17 | 3 | 2 |
| Ortho® Ant-B-Gon® Dust | permethrin | 2.00 | 2 | 2 |
| Ortho® Total Kill™ Brand Lawn and Garden Insect Killer Concentrate | permethrin | 2.00 | 3 | 2 |
| Off® Mosquito Coil III | d/l-allethrolene d- trans chrysanthemate | 2.00 | 3 | ? |
| Hi-Yield® 38 Plus Turf, Termite & Ornamental | permethrin | 2.00 | 3 | 2 |
| Off® PowerPad® Lamp/Lantern and Refills | d-cis/trans allethrin | 2.00 | 3 | 2 |
| Spectracide® Immunox® Plus Insect & Disease Control Concentrate | myclobutanil, permethrin | 2.00 | 3 | 1 |
| Spectracide® Immunox® 3-in-1 Insect & Disease Control Plus Fertilizer | myclobutanil, permethrin | 2.00 | 3 | 1 |
| Ortho® Ant-B-Gon® Bait | propoxur | 2.00 | 3 | 1 |
| Scotts® GrubEx® Season-Long Grub Control | imidacloprid | 2.00 | 3 | 3 |
| TAT® Ant Bait | propoxur | 2.00 | 3 | 1 |
| Ortho® Orthenex® Insect & Disease Control Aerosol | acephate, triforine, resmethrin | 2.00 | 3 | 1 |
| Ortho® Systemic Insect Killer Concentrate | acephate, fenbutatin oxide | 2.00 | 3 | 1 |
| Ortho® Orthenex® Garden Insect & Disease Control Concentrate | orthene, triforine, fenbutatin | 1.67 | 2 | 1 |

Slug and Snail Controls

A healthy garden has fewer pest problems. If you choose plants that are right for your yard and keep them healthy, your garden is less likely to have insect problems. Sometimes, even the best cared-for gardens have aphids, cutworms or other pest infestations. There are steps you can take to deal with the problem naturally. If you decide to use a pesticide, the following tables will help you choose the safest products.



A copper barrier protects seedlings.

Cultural, Physical, and Capture Methods (Slug & Snail)

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/Method | Active Ingredient(s) |
|--|--|
| Pick and squish | |
| Homemade slug and snail traps | inverted melon rind, beer, boards, bowls |
| Safer® Slug & Snail Copper Barrier Tape | copper barrier |
| Slug-X Trap | beer |
| Oak Stumps Farms® Slug Lure | vegetable-based bait |
| Oak Stumps Farms® Slug Trap | vegetable-based bait |
| Contech SlugsAway® Electronic Slug and Snail Fence | electric charge |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Lowest Hazard Slug/Snail Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|--|----------------------|--------------|---------------------------|--------------------------|
| Bayer Advanced™ Dual Action Snail & Slug Killer Bait | iron phosphate | 3.00 | 3 | ? |

| | | | | |
|--|----------------|------|---|---|
| Gardens Alive!® Escar-Go!® Slug and Snail Bait | iron phosphate | 3.00 | 3 | ? |
| Garden Safe® Slug and Snail bait | iron phosphate | 3.00 | 3 | ? |
| Lilly Miller® Worry Free® Ferramol Slug and Snail Bait | iron phosphate | 3.00 | 3 | ? |
| Monterey Sluggo® | iron phosphate | 3.00 | 3 | ? |

Moderate Hazard Slug/Snail Control

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|---|-----------------------------------|--------------|---------------------------|--------------------------|
| Gardens Alive!® Escar-Go!® Supreme™ Insect, Slug & Snail Bait | iron phosphate, spinosad | 2.80 | 3 | ? |
| Monterey Sluggo Plus® Insect, Slug, and Snail Pellets | iron phosphate, spinosad | 2.80 | 3 | ? |
| Lilly Miller® Snail & Slug Spray RTU | metaldehyde | 2.50 | 3 | 2 |
| Eliminator® Snail and Slug Bait II | metaldehyde | 2.50 | 3 | 2 |
| Corry's® Slug & Snail Death (Original & Pellets) | metaldehyde | 2.50 | 3 | 2 |
| Corry's® Slug & Snail Pellets (MP) | metaldehyde | 2.50 | 3 | 2 |
| Lilly Miller® Slug and Snail Bait | metaldehyde | 2.50 | 3 | 2 |
| Lilly Miller® Snail & Slug Mini-pellets | metaldehyde | 2.50 | 3 | 2 |
| Corry's® Liquid Slug & Snail Control | metaldehyde | 2.50 | 3 | 2 |
| Deadline® Force II™ Slug & Snail Killer | metaldehyde | 2.50 | 3 | 2 |
| Deadline® Rain Tough™ Slug & Snail Killer | metaldehyde | 2.50 | 3 | 2 |
| Green Light® Snail and Bug Bait | orthoboric acid | 2.50 | 3 | 2 |
| Lilly Miller® Hose 'n Go Slug & Snail Spray | metaldehyde | 2.50 | 3 | 2 |
| Lilly Miller® Slug + Snail Spray Hose 'n Go | metaldehyde, tetraoxycyclo-octane | 2.50 | 3 | 2 |

Highest Hazard Slug/Snail Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|--|-----------------------|--------------|---------------------------|--------------------------|
| Cooke® Pest Granules | carbaryl, metaldehyde | 2.00 | 3 | 1 |
| Lilly Miller® Slug, Snail & Insect Killer Bait | carbaryl, metaldehyde | 2.00 | 3 | 1 |

Disease Controls

A healthy garden has fewer pest problems. If you choose plants that are right for your yard and keep them healthy, your garden is less likely to have insect problems. Sometimes, even the best cared-for gardens have aphids, cutworms or other pest infestations. There are steps you can take to deal with the problem naturally. If you decide to use a pesticide, the following tables will help you choose the safest products.



The grandiflora rose "Tournament of Roses" resists disease.

Cultural, Physical, and Mechanical Methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| |
|---------------------------|
| Product/ Method |
| Plant-resistant varieties |
| Avoid overhead watering |

| |
|---|
| Product/ Method |
| Remove and destroy infected leaves and branches; sterilize pruners between cuts |
| Plant in right sun location, provide good air circulation |
| Compost tea applications may help prevent diseases |

Products Exempt from EPA Registration

These include low-toxicity pesticide products exempt from the EPA registration process. All are considered low risk, but note cautions.

| Product Name | Active Ingredient(s) |
|---|--|
| Dr. Earth® 3-Controls™ Organic Fungicide | clove oil |
| Organocide™ Organic Insecticide & Fungicide | sesame oil (fish oil, lecithin) |
| Organocide™ Organic Insecticide Fungicide | sesame oil |
| Pharm Solutions Flower Pharm | cottonseed oil, rosemary oil, cinnamon oil |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Low Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|---|-----------------------------------|--------------|---------------------------|--------------------------|
| Lilly Miller® Multi-Purpose Fungicide RTU | sulfur | 3.00 | 3 | ? |
| Monterey E-rase™ RTU Powdery Mildew Control | jojoba oil | 3.00 | 3 | ? |
| Serenade® Garden Lawn Disease Control | Bacillus subtilis, strain QST 713 | 3.00 | 3 | ? |
| GreenCure® Fungicide | potassium bicarbonate | 3.00 | 3 | ? |

| | | | | |
|---|------------|------|---|---|
| Hi-Yield® Dusting Wettable Sulfur | sulfur | 3.00 | 3 | ? |
| Monterey E-rase™ Concentrate Powdery Mildew Control | jojoba oil | 3.00 | 3 | ? |

Moderate Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazards | Long Term Health Hazards |
|--|---|--------------|---------------------------|--------------------------|
| Espoma® Earth-tone® 3 in 1 Disease Control RTU | sulfur, pyrethrins | 2.83 | 3 | 2 |
| Lilly Miller® Worry Free® 3 in 1 Garden Spray | sulfur, pyrethrins | 2.83 | 3 | 2 |
| Espoma® Earth-tone® 3 in 1 Disease Control Concentrate | sulfur, pyrethrins | 2.83 | 3 | 2 |
| Garden Safe® Brand Fungicide 3® RTU | neem oil | 2.80 | 3 | ? |
| Green Light® Rose Defense™ RTU | neem oil (clarified hydrophobic extract of) | 2.80 | 3 | ? |
| Safer® 3 in 1 Garden Spray 2 RTU | potassium salts of fatty acids, sulfur | 2.75 | 3 | ? |
| Concern® Copper Soap Fungicide | copper octanoate | 2.60 | 3 | 2 |
| Lilly Miller® Cueva™ Copper Soap Fungicide | copper octanoate | 2.60 | 3 | 2 |
| E.B. Stone™ Copper Soap Concentrate | copper octanoate | 2.60 | 3 | 2 |
| Garden Safe® Brand Fungicide 3® Concentrate | neem oil | 2.60 | 3 | ? |
| Green Light® Rose Defense™ Concentrate | neem oil (clarified | 2.60 | 3 | ? |

| | | | | |
|---|---|------|---|---|
| | hydrophobic extract of) | | | |
| Hi-Yield® Bordeaux Mix Fungicide | copper expressed as metallic copper | 2.60 | 3 | 2 |
| Lilly Miller® Kop-R-Spray™ Concentrate | copper, metallic | 2.60 | 3 | 2 |
| Bayer Advanced™ Fungus Control for Lawns | triadimefon | 2.67 | 3 | 1 |
| Ferti-lome® Halt™ Systemic Rose, Flower, Lawn, Ornamental Fungicide | thiophanate methyl | 2.50 | 3 | 1 |
| Bonide® Garden Dust | copper sulfate, rotenone, other cube resins | 2.50 | 3 | 2 |
| Green Light® Rose Defense™ II RTU | neem oil, pyrethrins, piperonyl butoxide | 2.50 | 3 | 2 |
| Lilly Miller® Microcop® / Sta-Stuk "M"™ | copper sulfate | 2.40 | 2 | 2 |

Highest Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|--------------------------|--------------|--------------------------|-------------------------|
| Bonide® Fung-onil™ Multipurpose Fungicide RTU | chlorothalonil | 2.33 | 3 | 1 |
| Garden Tech™ Daconil® Fungicide | chlorothalonil | 2.33 | 3 | 1 |
| Ferti-lome® F-Stop™ | myclobutanil | 2.33 | 3 | 1 |
| Spectracide® Immunox® Lawn Disease Control | myclobutanil | 2.33 | 3 | 1 |
| Bayer Advanced™ Disease Control for Roses, Flowers, Shrubs | tebuconazole | 2.17 | 3 | 2 |
| Spectracide® Immunox® Plus Insect & Disease Control | myclobutanil, permethrin | 2.17 | 3 | 1 |

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|---------------------------------------|--------------|--------------------------|-------------------------|
| Ortho® Rose Pride® Rose & Shrub Disease Control Concentrate | triforine | 2.17 | 1 | 1 |
| Green Light® Fung-Away® Systemic Lawn Fungicide | myclobutanil | 2.17 | 3 | 1 |
| Garden Tech™ Daconil® Fungicide Concentrate | chlorothalonil | 2.17 | 2 | 1 |
| Bonide® Infuse Systemic Disease Control | propiconazole | 2.00 | 2 | 1 |
| Ferti-lome® Liquid Systemic Disease Control | propiconazole | 2.00 | 2 | 1 |
| Ortho® Lawn Disease Control | propiconazole | 2.00 | 2 | 1 |
| Monterey Fruit Tree & Vegetable Ornamental Fungicide | chlorothalonil | 2.00 | 2 | 1 |
| Ortho® MAX™ Garden Disease Control | chlorothalonil | 2.00 | 2 | 1 |
| Ortho® Orthonex® Insect & Disease Control Aerosol | acephate, triforine, resmethrin | 1.83 | 2 | 1 |
| Bayer Advanced™ Dual Protection Azalea, Camellia & Rhododendron Insect & Disease Control | tebuconazole, imidacloprid | 1.83 | 3 | 2 |

Weed Controls



Regular weeding helps your garden thrive.

Pre-emergent Weed Controls

These products are used *before* weeds appear. They have no effect on existing weeds.

A healthy garden has fewer pest problems. If you choose plants that are right for your yard and keep them healthy, your garden is less likely to have insect problems. Sometimes, even the best cared-for gardens have aphids, cutworms or other pest infestations. There are steps you can take to deal with the problem naturally. If you decide to use a pesticide, the following tables will help you choose the safest products.

Cultural, Physical, and Mechanical methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/ Method | Active Ingredient(s) |
|-----------------|---|
| Mulch | wood chips, compost, bark, coconut coir, and other natural products |
| Plants | thick planting shades ground and inhibits weed germination |
| Weeding tools | hoe, trowel, hori-hori, etc. |
| Propane torch | fire safety practices important when flame-weeding |

Products Exempt from EPA registration

These include low-toxicity pesticide products exempt from the EPA registration process. All are considered low risk, but note cautions.

| Product/ Method | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|----------------------|--------------|--------------------------|-------------------------|
| Bradfield Organics® Luscious Lawn Granulated Corn Gluten | corn gluten | 3.00 | 3 | 3 |
| Concern® Weed Prevention Plus® | corn gluten | 3.00 | 3 | 3 |
| Down to Earth Corn Weed Blocker | corn gluten | 3.00 | 3 | 3 |
| Espoma Organic® Weed Preventer Plus Lawn Food | corn gluten meal | 3.00 | 3 | 3 |
| Preen® Vegetable Garden Weed Preventer | corn gluten meal | 3.00 | 3 | 3 |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Moderate Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|----------------------|--------------|--------------------------|-------------------------|
| Turf King Pennington Lawn Fertilizer & Controls Crabgrass | proflaminate | 2.17 | 3 | 2 |
| Monterey Weed Impede® | oryzalin | 2.50 | 3 | 1 |
| Green Light® Portrait® Broadleaf Weed Preventer | isoxaben | 2.50 | 3 | 2 |

Highest Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|----------------------|--------------|--------------------------|-------------------------|
| Scotts® Halts® Crabgrass Preventer | pendimethalin | 2.50 | 3 | 2 |
| Scotts® Turf Builder® with Halts® Crabgrass Preventer | pendimethalin | 2.50 | 3 | 2 |

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---------------------------------|----------------------|--------------|--------------------------|-------------------------|
| Lilly Miller® Casoron® Granules | dichlobenil | 2.50 | 3 | 2 |

Selective, Post-emergent Weed Controls

These products are used on *existing* weeds. They kill either broadleaf weeds or grasses but generally not both.

Cultural, Physical, and Mechanical methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/ Method | Active Ingredient(s) |
|---------------------------|---|
| Mulch | |
| Aerate and overseed lawns | |
| Hand tools | long-handled weed puller, trowel, hori-hori |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Moderate Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|----------------------------|--------------|--------------------------|-------------------------|
| Scotts® Lawn Pro® Super Turf Builder® with PLUS 2® Weed Control | 2,4-D, mecoprop-P | 2.50 | 3 | 2 |
| Scotts® Turf Builder® WinterGuard With PLUS 2® Weed Control | 2,4-D, MCP | 2.50 | 3 | 2 |
| Scotts® Turf Builder® with PLUS 2® Weed Control | 2,4-D, MCP | 2.50 | 3 | 2 |
| Vigoro® Ultra Turf™ Phosphorus-Free Winterizer Weed & Feed 2 | 2,4-D, mecoprop-P, dicamba | 2.50 | 3 | 2 |

Highest Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|--------------------------|--------------|--------------------------|-------------------------|
| Ferti-lome Over-The-Top Grass Killer RTU | fluazifop-P-butyl | 2.40 | 3 | ? |
| Ortho® Grass-B-Gon® Garden Grass Killer | fluazifop-P-butyl | 2.40 | 3 | ? |
| Bayer Advanced™ Brush Killer Plus RTU | triclopyr | 2.40 | 3 | ? |
| Lilly Miller® Brush, Blackberry & Vine Brush Killer RTU | triclopyr | 2.40 | 3 | ? |
| Ortho® MAX® Poison Ivy & Tough Brush Killer RTU | triclopyr | 2.40 | 3 | ? |
| Bayer Advanced™ Brush Killer Plus Concentrate | triclopyr | 2.40 | 3 | ? |
| Green Light® Cut Vine & Stump Killer | triclopyr | 2.40 | 3 | ? |
| Lilly Miller® Blackberry & Brush Killer | triclopyr TEA salt | 2.40 | 3 | ? |
| Ortho® MAX® Poison Ivy & Tough Brush Concentrate | triclopyr | 2.40 | 3 | ? |
| Ortho® Weed-B-Gon® Chickweed, Clover and Oxalis Killer for Lawns | triclopyr | 2.40 | 3 | ? |
| ACE® Spot Weed Killer 2 | 2,4-D, MCPP, dicamba | 2.33 | 3 | 2 |
| Bonide® Poison Ivy & Brush Killer BK-32 RTU | MCPA, triclopyr, dicamba | 2.33 | 3 | 2 |
| Bonide® Weed Beater Lawn Spot Weeder RTU | 2,4-D, mecoprop, dicamba | 2.33 | 3 | 2 |
| Ortho® Total Kill Brand Lawn Weed Killer RTU | 2,4-D, dichlorprop, MCPP | 2.33 | 3 | 1 |
| Ortho® Weed-B-Gone Crabgrass Killer for Lawns RTU | MSMA | 2.33 | 3 | 1 |

| | | | | |
|--|--|------|---|---|
| Ortho® Weed-B-Gon® MAX® Weed Killer for Lawns RTU | 2,4-D, MCPP, dicamba | 2.33 | 3 | 2 |
| Spectracide® Weed Stop® 2X Weed Killer for Lawns RTU | 2,4-D, MCPA, dicamba, sulfentrazone | 2.33 | 3 | 2 |
| WeedEx® Dandelion Stick® RTU | 2,4-D, triclopyr | 2.33 | 3 | 2 |
| Ferti-lome® Crabgrass, Nutgrass & Dallisgrass Killer | monosodium acid methanearsonate | 2.33 | 3 | 1 |
| Ortho® Total Kill Brand Lawn Weed Killer Concentrate | 2,4-D, MCPP,+ | 2.33 | 2 | 2 |
| Ortho® Weed-B-Gon® Crabgrass Killer for Lawns Concentrate | MSMA | 2.33 | 3 | 1 |
| Spectracide® Weed Stop® 2X Weed Killer for Lawns Concentrate | 2,4-D, MCPA, dicamba, sulfentrazone | 2.33 | 3 | 2 |
| ACE® Green Turf Weed & Feed | 2,4-D, MCPP, dicamba | 2.33 | 3 | 2 |
| Lilly Miller® Hose 'n Go Weed & Feed | 2,4-D, MCPA, dicamba | 2.33 | 3 | 2 |
| Lilly Miller® Ultragreen® Weed & Feed | 2,4-D, MCPA, dicamba | 2.33 | 3 | 2 |
| Lilly Miller® Ultragreen® Pro Weed & Feed | 2,4-D, MCPA, dicamba | 2.33 | 3 | 2 |
| Scotts® Liquid Turf Builder® with PLUS 2® Weed Control 25-1-2 Lawn Fertilizer and Broadleaf Weed Control | 2,4-D, mecoprop, dichlorprop | 2.33 | 3 | 1 |
| Sta-Green® Phosphorus-free Weed & Feed | 2,4-D, MCPP, dicamba | 2.33 | 3 | 2 |
| Vigoro® Ultra Turf™ Weed & Feed | 2,4-D, MCPP, dicamba | 2.33 | 3 | 2 |
| Vigoro® Ultra Turf Weed & Feed RTS | 2,4-D, MCPP, dichlorprop-P | 2.33 | 3 | 1 |
| Bonide® Weed Beater ULTRA RTS | MCPA, MCPP, dicamba, carfentrazone-ethyl | 2.17 | 3 | 2 |
| Eliminator® Dandelion & Clover Killer RTU | 2,4-D, MCPP, dichlorprop-P | 2.17 | 3 | 1 |

| | | | | |
|---|---|------|---|---|
| Ferti-lome® Weed-Free Zone RTU | MCPA, MCPP, dicamba, carfentrazone-ethyl | 2.17 | 3 | 2 |
| Ortho® Weed-B-Gon® MAX™ plus Crabgrass Killer for Lawns RTU | 2,4-D, quinclorac, dicamba | 2.17 | 3 | 2 |
| Bonide® Weed Beater ULTRA Concentrate | MCPA, MCPP, dicamba, carfentrazone-ethyl | 2.17 | 3 | 2 |
| Crossbow® Low Volatile Weed & Brush Herbicide | 2,4-D, triclopyr | 2.17 | 3 | 2 |
| Ortho® Weed-B-Gon® MAX® Weed Killer For Lawns Concentrate | MCPA, triclopyr amine, dicamba | 2.17 | 2 | 2 |
| Preen® Lawn STEPSAVER Weed Control plus Fertilizer | 2,4-D, MCPP, dicamba, dithiopyr | 2.17 | 3 | 2 |
| Ortho® Weed-B-Gon® MAX® plus Crabgrass Control for Lawns RTU | quinclorac, MCPP, 2,4-D, dicamba | 2.00 | 3 | 2 |
| Spectracide® Weed Stop® for Lawns plus Crabgrass Killer RTU | 2,4-D, quinclorac, dicamba, sulfentrazone | 2.00 | 3 | 2 |
| Bayer Advanced™ All-In-One Lawn Weed & Crabgrass Killer RTS | 2,4-D, quinclorac, dicamba | 2.00 | 3 | 2 |
| Ortho® Weed-B-Gon® MAX® Plus Crabgrass Killer for Lawns RTS | 2,4-D, quinclorac, dicamba | 2.00 | 3 | 2 |
| Spectracide® Weed Stop® for Lawns Concentrate plus Crabgrass Killer | 2,4-D, quinclorac, dicamba, sulfentrazone | 2.00 | 3 | 2 |
| Bayer Advanced™ All-In-One Lawn Weed & Crabgrass Killer RTU | MSMA, 2,4-D, MCPP, dicamba | 1.83 | 3 | 1 |
| Bayer Advanced™ All-In-One Lawn Weed & Crabgrass Killer Concentrate | MSMA, 2,4-D, MCPP, dicamba | 1.83 | 3 | 1 |

Non-selective, Post-emergent Weed Controls

These products are used on existing weeds. They will kill or damage all plants, including lawn.

Cultural, Physical, and Mechanical Methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/ Method | Active Ingredient(s) |
|-----------------|---|
| Mulch | wood chips, compost, bark, coconut coir, and other natural products |
| Plants | thick planting shades ground and inhibits weed germination |
| Weeding tools | hoe, trowel, hori-hori, etc. |
| Propane torch | fire-safety practices important when flame-weeding |

Products Exempt from EPA Registration

These include low-toxicity pesticide products exempt from the EPA registration process. All are considered low risk, but note cautions.

| Product/ Method | Active Ingredient(s) |
|---|------------------------|
| Perfectly Natural™ Weed 'n Grass Killer | citric acid, clove oil |
| St. Gabriel Laboratories BurnOut II Weed & Grass Killer RTU | citric acid, clove oil |
| St. Gabriel Laboratories BurnOut II Weed & Grass Killer Concentrate | citric acid, clove oil |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Lowest Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|---------------------------------|--------------|--------------------------|-------------------------|
| Concern® Fast-Acting Weed Killer® | ammoniated salts of fatty acids | 3.00 | 3 | ? |
| Garden Safe Brand Weed & Grass Killer | ammoniated salts of fatty acids | 3.00 | 3 | ? |
| Safer® Fast Acting Weed & Grass Killer RTU | potassium salts of fatty acids | 3.00 | 3 | ? |

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|-------------------------|--------------|--------------------------|-------------------------|
| Lilly Miller® Worry Free® Weed & Grass Killer for Organic Gardening RTU | d-Limonene (citrus oil) | 3.00 | 3 | ? |
| Lilly Miller® Worry Free® Weed & Grass Killer for Organic Gardening Concentrate | d-Limonene (citrus oil) | 3.00 | 3 | ? |
| Nature's Avenger® Organic Herbicide Concentrate Weed Controller | d-Limonene | 3.00 | 3 | ? |

Moderate Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|--|--------------|--------------------------|-------------------------|
| Eliminator® Weed & Grass Killer II RTU | glyphosate, isopropylamine salt | 2.80 | 3 | ? |
| Roundup® Weed & Grass Killer RTU Plus | glyphosate, pelargonic acid | 2.80 | 3 | ? |
| Roundup® Weed & Grass Killer Super Concentrate | glyphosate | 2.80 | 3 | ? |
| Nature's Glory™ Weed & Grass Killer | acetic acid | 2.75 | 2 | ? |
| Ortho® Season-Long® Grass & Weed Killer RTU | oxyfluorfen, glyphosate | 2.67 | 3 | 2 |
| Espoma® Earth-tone® 4 in 1 Weed Control | ammoniated soap of fatty acids, maleic hydrazide | 2.60 | 3 | ? |
| Ortho® Total Kill Brand Weed & Grass Killer Super Concentrate | glyphosate | 2.60 | 2 | ? |

Highest Hazard Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|--|--------------|--------------------------|-------------------------|
| Espoma® Earth-tone® 4 in 1 Weed Control Concentrate | ammoniated soap of fatty acids, maleic hydrazide | 2.40 | 2 | ? |
| Roundup® Extended Control® Weed & Grass Killer Plus Weed Preventer Concentrate | glyphosate, diquat dibromide, imazapic ammonium salt | 2.40 | 3 | ? |
| Ortho® Season-Long® Max Weed & Grass Killer Plus Preventer Concentrate | oxyfluorfen, diquat dibromide, glyphosate, isopropylamine salt | 2.40 | 3 | 2 |
| Roundup® Extended Control® Weed & Grass Killer Plus Weed Preventer 2 RTU | glyphosate, pelargonic acid, imazapic ammonium salt | 2.40 | 3 | ? |
| Roundup® Extended Control® Weed & Grass Killer Plus Weed Preventer RTU | glyphosate, imazapic ammonium salt | 2.40 | 3 | ? |
| Ortho® GroundClear® Complete Vegetation Killer RTU | imazapyr, glyphosate | 2.40 | 3 | ? |
| Roundup® Poison Ivy Plus Tough Brush Killer RTU | triclopyr TEA salt, glyphosate | 2.40 | 3 | ? |
| Roundup® Poison Ivy & Tough Brush Killer Plus Concentrate | triclopyr TEA salt, glyphosate | 2.40 | 3 | ? |
| Roundup® Weed & Grass Killer Plus | diquat dibromide, glyphosate | 2.40 | 3 | ? |
| Spectracide® Weed & Grass Killer RTU | diquat dibromide, fluazifop-P-butyl, dicamba | 2.00 | 3 | ? |
| Spectracide® Triple Strike Grass Weed Root Killer2 Concentrate | diquat dibromide, fluazifop-P-butyl, dicamba | 2.00 | 3 | ? |
| Ortho® Ground Clear® Complete Vegetation Killer Concentrate | imazapyr, glyphosate | 2.20 | 2 | ? |

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|----------------------|--------------|--------------------------|-------------------------|
| Ortho® Total Kill Brand Vegetation Killer Concentrate | prometon | 1.80 | 2 | ? |

Moss Control

A healthy garden has fewer pest problems. If you choose plants that are right for your yard and keep them healthy, your garden is less likely to have insect problems. Sometimes, even the best cared-for gardens have aphids, cutworms or other pest infestations. There are steps you can take to deal with the problem naturally. If you decide to use a pesticide, the following tables will help you choose the safest products.



Moss thrives in the Pacific Northwest.

Controls for Lawns

Cultural, Physical, and Mechanical Methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/ Method | Active Ingredient(s) |
|--|---|
| Reduce shade and correct drainage problems | |
| Correct acidity problems | lime, after soil testing |
| Correct fertility problems | fertilizer (NOT weed and feed) after soil testing |

| | |
|-----------------------------------|----------------------|
| Product/ Method | Active Ingredient(s) |
| Do not have lawn where moss grows | |

EPA-Registered Pesticide Products

Low Hazard Moss Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|-----------------------------|--------------|--------------------------|-------------------------|
| Scotts® Moss Control Granules for Lawns | ferrous sulfate monohydrate | 3.00 | 3 | 3 |
| Vigoro® Ultra Turf™ Moss-Ex® Lawn Granules | ferrous sulfate monohydrate | 3.00 | 3 | 3 |
| NuLife Rid-Moss® | ferrous sulfate monohydrate | 3.00 | 3 | 3 |
| TurfKing™ Lawn Moss Granules | ferrous sulfate monohydrate | 3.00 | 3 | 3 |
| Scotts® Turf Builder® with Moss Control | ferrous sulfate monohydrate | 3.00 | 3 | 3 |
| Lilly Miller® Moss Out!™ Plus Fertilizer | ferrous sulfate monohydrate | 3.00 | 3 | 3 |
| TurfKing™ Lawn Fertilizer & Moss Control | ferrous sulfate monohydrate | 3.00 | 3 | 3 |

Moderate Hazard Moss Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|---------------------------|--------------|--------------------------|-------------------------|
| Lilly Miller® Moss Out!™ Spot Treater RTU | ferric sulfate, anhydrous | 2.00 | 1 | 3 |
| Lilly Miller® Moss Out!™ For Lawns Concentrate | ferric sulfate | 2.00 | 1 | 3 |

Controls for Structures

Cultural, Physical, and Mechanical Methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/ Method | Active Ingredient(s) |
|--|----------------------|
| Reduce shade and correct drainage problems | |
| Hand tools, blower, pressure washer | |

Products Exempt from EPA Registration

These include low-toxicity pesticide products exempt from the EPA registration process. All are considered low risk, but note cautions.

| Product/ Method | Active Ingredient(s) |
|--|------------------------------------|
| Lilly Miller® Worry Free® Moss & Algae Control | sodium lauryl sulfate, citric acid |
| Lilly Miller® Moss Out!™ Roof Strips | zinc metal strips |
| Perfectly Natural™ Moss Killer | clove oil, citric acid |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Lowest Hazard Moss Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|---------------------------------|--------------|--------------------------|-------------------------|
| Lilly Miller® Moss Out!™ for Roofs & Structures | ammoniated salts of fatty acids | 3.00 | 3 | ? |
| Safer® Moss & Algae Killer & Surface Cleaner RTU | potassium salts of fatty acids | 3.00 | 3 | ? |

Moderate Hazard Moss Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|---------------------------------|--------------|--------------------------|-------------------------|
| Bayer Advanced™ 2-in-1 Moss & Algae Killer | potassium salts of fatty acids | 2.60 | 1 | ? |
| Garden Safe Brand Moss & Algae Killer | potassium salts of fatty acids | 2.60 | 1 | ? |
| Lilly Miller® Moss Out!™ For Roofs & Walks | ammoniated salts of fatty acids | 2.80 | 2 | ? |
| Monterey Herbicidal Soap Kills Moss, Algae & Weeds | ammoniated salts of fatty acids | 2.80 | 2 | ? |

Highest Hazard Moss Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|--------------------------|--------------|--------------------------|-------------------------|
| Lilly Miller® Moss Out!™ For Roofs Concentrate | zinc chloride | 2.00 | 1 | 1 |
| Corry's® Moss-B-Ware® | zinc sulfate monohydrate | 2.00 | 1 | 1 |

Mammal Controls

A healthy garden has fewer pest problems. If you choose plants that are right for your yard and keep them healthy, your garden is less likely to have insect problems. Sometimes, even the best cared-for gardens have aphids, cutworms or other pest infestations. There are steps you can take to deal with the problem naturally. If you decide to use a pesticide, the following tables will help you choose the safest products.



Moles, nature's rototiller.

Cultural, Physical, and Capture methods

These methods include traps and pheromone attractants. They are the least hazardous methods.

| Product/ Method | Active Ingredient(s) |
|--|----------------------|
| Bird-B-Gone Clear Plastic Spikes | |
| Cinch Mole Trap (not legal in Washington) | |
| Contech Scarecrow® Outdoor Animal Deterent Hose Attachment | |
| Exhart Mole Mover™ | |
| Havahart® Live Animal Traps - All Sizes | |
| Snap-type Mouse and Rat Traps | |
| Glue-type Mouse and Rat Traps | glue |
| Sweeney's® Mole & Gopher Sonic Spike | electricity |
| Tomcat® Glue Traps with Eugenol | glue |
| Tomcat® Mouse Trap Kit: No-touch Trap with Attractant | attractant |
| Owl Decoy/Scarecrow | |
| Reflective Bird Tape | |
| Snake Scarecrow | |

Products Exempt from EPA registration

These include low-toxicity pesticide products exempt from the EPA registration process. All are considered low risk, but note cautions.

| Product Name | Active Ingredient(s) |
|--|--|
| BioDefend™ Deer & Rabbit Repellent with Extendex™ | putrescent whole egg solids, sodium laurel sulfate |
| Bonide® Mole Max® Mole and Vole Repellent | castor oil (USP upgrade) |
| Bonide® Shot-Gun® Repels All® Animal Repellent | dried blood, putrescent whole egg solids, garlic oil |
| Dr. T's Mole Out Mole Repelling Granules | castor oil (USP upgrade) |
| Grants Sure Stop® Mole Repellent | castor oil, soybean oil |
| Havahart® Get-Away® Mole Repellent | castor oil (USP upgrade) |
| Lilly Miller® Mole Repellent | castor oil (USP upgrade) |
| Lilly Miller® Worry Free® Outdoor Dog, Cat & Bird Repellent Granules | white pepper, thyme oil, peppermint oil |
| Liquid Fence Deer & Rabbit Repellent | putrescent whole egg solids, garlic, sodium laurel sulfate |
| Messina Wildlife Deer Stopper | putrescent whole egg solids, rosemary oil, mint oil |
| Messina Wildlife Mole & Vole Stopper | castor oil, rosemary oil, mint oil, sodium laurel sulfate |
| Natural Pest Solutions Deer Solution | cinnamon oil |
| Plantskydd® Deer-Rabbits-Elk Repellent | dried blood |
| Scoot® Products Mole Repellent | castor oil, garlic oil |
| Shake Away™ Deer Repellent - Coyote Urine Powder Packs | coyote urine, garlic oil |
| Shake Away™ Rodent Repellent | garlic oil, calcium carbonate, urea, water |
| Sweeney's® Mole & Gopher Repellent | castor oil |

EPA-Registered Pesticide Products

Use pesticides only as a last resort. Pesticides pose varying risks to people, pets, and also commonly kill beneficial insects. Pests tend to bounce back more quickly than beneficial insects that eat pests, leading to even more pests later. Minimize pesticide use by spot-spraying instead of selecting broadcast application.

Lowest Hazard Mammal Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|---|---|--------------|--------------------------|-------------------------|
| Havahart® Deer Off® Deer, Rabbit and Squirrel Repellent | putrescent egg solids, capsaicin, garlic | 3.00 | 3 | ? |
| Scoot® Products Deer & Rabbit Repellent | capsaicin & capsaicinoid product, butyl mercaptan | 3.00 | 3 | ? |
| Scoot® Products Squittel Repellent | capsaicin & capsaicinoid product | 3.00 | 3 | 3 |
| Monterey No Goose Zone™ | methyl anthranilate | 3.00 | 3 | ? |
| Sweeney's® Mole & Gopher Repellent | castor oil | 3.00 | 3 | 3 |

Moderate Hazard Mammal Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|------------------------------------|----------------------|--------------|--------------------------|-------------------------|
| Bird X Goose Chase® Bird Repellent | methyl anthranilate | 2.67 | 2 | ? |
| Tanglefoot® Bird Repellent | polybutene | 2.33 | 2 | ? |

Highest Hazard Mammal Controls

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|----------------------|--------------|--------------------------|-------------------------|
| Bonide® Moletox II® Mole & Gopher Killer | zinc phosphide | 2.25 | 3 | ? |
| Grants Sure Stop® Mole & Gopher Bait | zinc phosphide | 2.25 | 3 | ? |

| Product Name | Active Ingredient(s) | Safety Score | Short Term Health Hazard | Long Term Health Hazard |
|--|-------------------------------------|--------------|--------------------------|-------------------------|
| Nott® Mole-Nots | zinc phosphide | 2.25 | 3 | ? |
| Grants Sure-Stop® Mole & Gopher Bait | zinc phosphide | 2.25 | 3 | ? |
| Sweeney's® Poison Peanuts | zinc phosphide | 2.25 | 3 | ? |
| JT Eaton™ AC Formula 90™ Rodenticide | chlorophacinone | 2.25 | 3 | ? |
| Tomcat® Ultra Pre-filled Bait Trays | bromadiolone | 2.25 | 3 | ? |
| Tomcat® Ultra Pelleted Mouse & Rat Bait | bromadiolone | 2.25 | 3 | ? |
| Victor® Mouse Bait Packs | bromadiolone | 2.25 | 3 | ? |
| Victor® Rat & Mouse Place Packs | bromadiolone | 2.25 | 3 | ? |
| d-Con® Rat & Mouse Bait Blocks Mini-Blocks | difethialone | 2.25 | 3 | ? |
| Sweeney's® No Mess Paste Bait | difethialone | 2.25 | 3 | ? |
| Bonide® Moletox® Baited Gel | warfarin | 2.20 | 3 | 1 |
| d-Con® Bait Pellets Kills Rats & Mice | brodifacoum | 2.00 | 3 | ? |
| d-Con® Ready Mixed Bait Bits Kills Mice & Rats | brodifacoum | 2.00 | 3 | ? |
| Kaput® Mole Gel Bait | warfarin | 2.00 | 3 | 1 |
| Atlas Chemical Corp. Giant Destroyer | sodium nitrate, sulfur, charcoal | 2.00 | 2 | ? |
| Revenge® Rodent Smoke Bomb | sulfur, potassium nitrate, charcoal | 2.00 | 2 | ? |