

General Use Insecticides For Home Gardeners

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Entfact-445

Home gardeners are confronted with a large number of potential insect problems. The types of potential insect problems will depend on their location, health of their plants, and types of plants they grow. Depending on the type of plant, problems can range from rare to frequent. A pest management program for home gardeners should rely on proper identification of insect pests, effective use of preventive cultural controls, conservation of natural enemies, and use of chemical controls as a last resort if other control strategies are ineffective or unavailable for a particular problem.

Cultural controls that help home gardeners reduce pest problems include proper site selection, sanitation of residues and weeds, use of resistant varieties, cultivation, crop rotation, altering planting and harvest dates appropriate timing and amount of irrigation and fertilization, and use of barriers and exclusion. Cultural controls are selected used preventively and selected according to the chances of particular insect problems occurring in the area.

Another important concept is that it often takes a large number of a particular pest to reduce the yield of a plants and affect plant health. A single aphid should not cause alarm, but many colonies on just a few plants may require action. In this instance, a strong stream of water or an application of insecticidal soap may be all that is needed.

This publication lists some of the various general use insecticides that are currently on the market for home gardeners. The usage

area for a particular insecticide are indicated, but the user must check each label to be sure that application to particular types of plants are permitted. Only the uses listed on the pesticide label are permitted. You must read the labels to understand the restrictions. Another label restriction is the minimum amount of time between application and when food crops can be harvested. This is referred to as the pre-harvest interval (PHI). Other information concerning mixing and dosages, application methods, protective equipment, storage, and container disposal are also included on the label.

Not all brands of insecticides are listed in these tables, as some companies do not make their pesticide labels available on the internet. But the list does provide a comprehensive guide to the types of materials available to home gardeners.

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| Insecticide (AI) | Example Trade Names ¹ | Area for Use | | | | | |
|--------------------------------------|--|--------------|--------------------------------------|---------------------------------|---------------------------------|---------------------------------|------------|
| | | Houseplants | Lawns | Perimeter ² | Ornamentals | Fruit | Vegetables |
| Carbamates (IRAC 1A) | | | | | | | |
| carbaryl | Southern Ag Carbaryl Dust (5%) Southern Ag Mole Cricket Bait (5%) Garden Tech Sevin 5% Dust (5%) | | ✓ ✓ ✓ | | ✓ ✓ ✓ | ✓ ✓ ✓ | |
| Organophosphates (IRAC 1B) | | | | | | | |
| acephate | Bonide Systemic Insect Control (9.4%) Bioadvanced 2n1 Systemic Rose and Flower Care Granules (1.5%) Ortho Orthene Fire Ant Killer (50%) | | ✓ | | ✓ ✓ ✓ | | |
| malathion | Ortho Max Malathion Insect Spray Concentrate (50%) Bonide Malathion Insect Control (50%) Gordon's Malathion 50% Spray (50%) Spectracide Malathion Insect Spray Concentrate (50%) Southern Ag Malathion 50% EC (50%) | | | | ✓ ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ ✓ | |
| trichlorfon | Bioadvanced 24 Hour Grub Killer Plus (9.3%) | | ✓ | | | | |
| Pyrethrins and Pyrethroids (IRAC 3A) | | | | | | | |
| beta-cyfluthrin | Bioadvanced Fire Ant Killer Granules (0.5%) | | ✓ | | ✓ | | |
| bifenthrin | Bonide Eight Insect Control Flower & Vegetable Soil Insect Granules (0.115%) Southern Ag Lawnstar Granular Insecticide (0.2%) Ortho Home Defense Insect Killer for Lawns Granules (0.115%) Ortho Fire Ant Killer Mount Treatment 1 (0.2%) Ortho Bug-B-Gon Lawn Insect Killer (0.2%) Ortho Home Defense Insect Killer Granules 3 (0.115%) Fertilome Broad Spectrum Insecticide (0.03%) Monterey Vegetable Garden Soil Insecticide (0.115%) | | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ ✓ ✓ ✓ | |
| cyfluthrin | Bioadvanced 24 Hour Lawn Insect Killer (0.75%) Bioadvanced Complete Insect Killer for Soil and Turf Concentrate I (0.75%) Bioadvanced Insect Killer for Lawns (0.75%) Bioadvanced Rose and Flower Insect Killer (0.003%) | | ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ | ✓ ✓ ✓ ✓ | |
| deltamethrin | Ortho Insect Killer Rose and Flower (0.02%) Ortho Insect Killer Flower & Vegetable Garden Dust (0.05%) Green Light Many Purpose Dust (0.05%) | ✓ ✓ | | | ✓ ✓ ✓ | ✓ ✓ ✓ | |

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| esfenvalerate | Monterey Bug Buster II (0.425%) | | ✓ | | ✓ | ✓ | ✓ |
| gamma-cyfluthrin | Spectracide Triazicide Insect Killer for Lawns & Landscapes (0.08%) Spectracide Triazicide Insect Killer for Lawns & Landscapes Granules (0.08%) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| lambda-cyhalothrin | Bonide Eight Insect Control Garden and Home RTU (0.002%) Spectracide Ant Shield Insect Killer (0.04%) | | ✓ | ✓ | ✓ | | ✓ |
| permethrin | Bonide Ant, Flea, & Tick Killer Granules (0.25%) Bonide Eight Insect Control Garden Dust (0.125%) Bonide Eight Insect Control Vegetable, Fruit, & Flower Concentrate (2.5%) Bonide Eight Insect Control Yard & Garden RTS (2.5%) Gordon's Garden Guard Insecticide Dust (0.25%) Southern Ag Garden Insect Dust with Permethrin (0.25%) Southern Ag Home Pest Control Spray (0.25%) Southern Ag Permetrol Lawn Insecticide (10%) | ✓ ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| pyrethrins | Monterey Bug Buster – O (1.4%) | | | | ✓ | ✓ | ✓ |
| pyrethrins + neem oil | Fertilome Triple Action (0.25%/70%) Monterey Fruit Tree Spray Plus (0.25%/70%) | ✓ | ✓ | | ✓ | ✓ | ✓ |
| pyrethrins + PBO | Bonide Japanese Beetle Killer RTU (0.02%/0.2%) Bonide Pyrethrin Garden Insect Spray Concentrate (1%/10%) Southern Ag Pyrethrin Concentrate (0.96%/9.6%) | ✓ | | | ✓ | ✓ | ✓ |
| pyrethrins + PBO + Neem Oil | Ortho Tree and Shrub Fruit Tree Spray (0.25%/2.5%/70%) Fertilome Fruit Tree Spray (0.25%/2.5%/70%) | ✓ ✓ | | | ✓ | ✓ | ✓ |
| pyrethrins + sulfur | Ortho Insect, Mite & Disease 3-IN-1 (0.01%/0.2%) | | | | ✓ | ✓ | ✓ |
| tau-fluvalinate + tebuconazole | Bioadvanced 3-in1 Insect, Disease, & Mite Control Concentrate I (0.61%/0.65%) Bioadvanced All in One Rose and Flower Spray 3-in1 Formula (0.61%/0.65%) | ✓ ✓ | | | ✓ | ✓ | |
| zeta-cypermethrin | Gordon's Bug-No-More Lawn & Garden Insect Control (0.35%) Garden Tech Sevin Insect Killer Concentrate (0.35%) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Neonicotinoids (IRAC 4A) | | | | | | | |
| acetamiprid | Ortho Flower, Fruit & Vegetable Insect Killer RTU (0.006%) | | | | ✓ | ✓ | ✓ |
| dinotefuran | Ortho Tree and Shrub Insect Control Granules (2%) | | | | ✓ | | |
| imidacloprid | Bonide Annual Grub Beater Insect Control with Systemaxx (0.5%) Bonide Annual Tree & Shrub Insect Control with Systemaxx (1.47%) Bonide Systemic Granules Insect Control (0.22%) Bonide Systemic Insect Spray with Systemaxx (1.47%) Bonide Systemic Rose & Flower Care 8-12-4 Granules (0.2%) Bioadvanced 12 Month Tree & Shrub Insect Control Concentrate (2.94%) Bioadvanced 12 month Tree & Shrub Protect and Feed Concentrate 2-1-1 (1.47%) Bioadvanced 12 month Tree & Shrub Protect and Feed Granules 2-1-1 (1.1%) Bioadvanced 21 Systemic Rose & Flower Care Granules II (0.22%) Bioadvanced Fruit, Citrus & Vegetable Insect Control Concentrate (0.235%) Bioadvanced Season Long Grub Control plus Turf Revitalizer (0.25%) | | ✓ | | ✓ | ✓ | ✓ |

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| | Gordon's Grub-No-More Granules (0.2%) Southern Ag Grub Away Imidacloprid 0.5 G (0.5%) Fertilome 2-N-1 Systemic Insect & Disease Protection (0.15%) Fertilome Tree & Shrub Systemic Insect Drench (1.47%) Monterey Fruit Tree & Vegetable Systemic Insect Drench (0.235%) Monterey Once a Year Insect Control II (1.47%) | | ✓ | | ✓ | | |
| Spinosyns (IRAC 5) | | | | | | | |
| spinosads | Ortho Insect Killer Tree & Shrub (0.5%) Bonide Captain Jacks Deadbug Brew (0.5%) Bonide Captain Jacks Deadbug Brew Dust (0.001%) Bonide Captain Jacks Deadbug Brew RTS (0.5%) Bonide Captain Jacks Deadbug Brew RTU (0.001%) Bonide Colorado Potato Beetle Beater Concentrate (0.5%) Southern Ag Conserve Naturalyte Insect Control (0.05%) Southern Ag Payback Fire Ant Bait (0.015%) Monterey Garden Insect Spray (0.5%) | | ✓ | | ✓ | ✓ | ✓ |
| Miscellaneous Groups | | | | | | | |
| <i>Bacillus thuringiensis kurstaki</i> | Bonide Thuricide Bacillus thuringiensis (BT) (15%) Bonide Captain Jack's Bt Bacillus thuringiensis RTU (9.83%) Southern Ag Dipel Dust (0.41%) Southern Ag Thuricide BT Caterpillar Control (98.35%) Fertilome Dipel Dust Biological Insecticide (0.064%) Monterey B.t. (98.35%) Monterey B.T. RTU (9.83%) | ✓ | | | ✓ | ✓ | ✓ |
| cottonseed + cove oil | Nature-cide All-Purpose Commercial Concentrate (0.5%0.5%) | | | | ✓ | ✓ | ✓ |
| cottonseed, clove & garlic oil | Bonide Mite X RTU (0.4%/0.2%/0.1%) | ✓ | | | ✓ | ✓ | ✓ |
| <i>Heterohabditis bacteriophora</i> | Garden's Alive Grub-Away Beneficial Nematodes | ✓ | ✓ | | ✓ | ✓ | ✓ |
| insecticidal soap | Bonide Multi-purpose Insect Control Insecticidal Soap RTU (1%) | ✓ | | | ✓ | ✓ | ✓ |
| iron phosphate | Bonide Captain Jack's Slug Magic (1%) Monterey Sluggo (1%) | | ✓ | | ✓ | ✓ | ✓ |
| metaldehyde | Southern Ag Snail & Slug Bait (3.25%) | | ✓ | | ✓ | ✓ | ✓ |
| neem oil | Southern Ag Triple action Neem Oil (70%) Monterey 70% Neem Oil (70%) | ✓ | | | ✓ | ✓ | ✓ |
| paraffinic oil | Southern Ag Parafine Horticultural Oil (98%) Fertilome Horticultural Oil Spray (80%) Monterey Horticultural Oil (80%) | ✓ | | | ✓ | ✓ | ✓ |
| rosemary + peppermint oil | Essentria All Purpose Insect Concentrate (10%/2%) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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| rosemary + clove + cottonseed oil | Monterey All Natural Mite & Insect Control RTU (0.2%/0.1%/0.6%) | ✓ | | | ✓ | ✓ | ✓ |
| Insecticide Mixtures | | | | | | | |
| bifenthrin + carbaryl | Bioadvanced Complete Insect Killer for Soil and Turf Granules (0.058%/2.3%) | | ✓ | ✓ | ✓ | | |
| bifenthrin + zeta-cypermethrin | Ortho Bug-B-Gon Lawns & Landscape Insect Killer Concentrate (0.3%/0.075%) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Ortho Home Defense Insect Killer for Lawns & Landscape Concentrate (0.3%/0.075%) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Garden Tech Sevin Insect Killer Lawn Granules (0.115%/0.029%) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| imidacloprid + beta-cyfluthrin | Bioadvanced Complete Insect Killer For Soil & Turf RTS (0.72%/0.36%) | | ✓ | ✓ | | | |
| | Bioadvanced Complete Insect Killer For Soil & Turf Concentrate (0.72%/0.36%) | | ✓ | ✓ | | | |
| | Bioadvanced Complete Insect Killer For Soil & Turf Granules (0.15%/0.05%) | | ✓ | ✓ | ✓ | | |
| | Bioadvanced Complete Dual Action Rose & Flower Insect Killer (0.0015%/0.012%) | ✓ | | | ✓ | | |
| imidacloprid + clothianidin | Bioadvanced 12 month Tree & Shrub Protect and Feed Concentrate II (0.74%/0.37%) | | | | ✓ | | |
| | Bioadvanced 12 month Tree & Shrub Protect and Feed Granules II (0.55%/0.275%) | | | | ✓ | | |
| imidacloprid + lambda-cyhalothrin | Bonide DuraTurf Insect and Grub Control (0.5%/0.1%) | | ✓ | ✓ | | | |
| imidacloprid + tau-fluvalinate + tebuconazole | Bioadvanced 3-in-1 Insect, Disease, & Mite Control Concentrate (0.47%/0.61%) | | | | ✓ | | |
| | Bioadvanced 3-in-1 Insect, Disease, & Mite Control RTU (0.012%/0.014%/0.015%) | ✓ | | | ✓ | | |
| iron phosphate + spinosad | Bonide Captain Jack's Bug & Slug Killer (0.97%/0.07%) | | ✓ | | ✓ | ✓ | ✓ |
| | Garden's Alive Bull's-EYE Outdoor Granular Ant Bait (0.97%/0.07%) | | ✓ | | ✓ | ✓ | ✓ |
| | Monterey Sluggo Plus (0.97%/0.07%) | | ✓ | | ✓ | ✓ | ✓ |
| permethrin + tetramethrin | Monterey Rose & Flower Insect Spray (0.2%/0.2%) | | ✓ | | ✓ | | |

¹ RTS = Ready to Spray; RTU = Ready to Use.

² 'Perimeter' refers to applications that are made either to the soil around the perimeter of dwellings to exterior walls or surfaces.