

General Use Insecticides For Home Gardeners

Ric Bessin, Extension Specialist

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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CAUTION! Pesticide recommendations in this publication are registered for use in Kentucky, USA ONLY! The use of some products may not be legal in your state or country. Please check with your local county agent or regulatory official before using any pesticide mentioned in this publication.

Of course, ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR SAFE USE OF ANY PESTICIDE!

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 Insect Killer for Lawns 3 (0.115%) Ortho Home Defense Insect Killer Granules (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%) Bioadvanced Vegetable & Garden Insect Spray (0.75%)		✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓		✓ ✓ ✓ ✓ ✓	
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%)			✓			
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-in1Formula (0.61%/0.65%)	✓ ✓			✓	✓	
zeta-cypermethrin	Gordon's Bug-No-More Lawn & Garden Insect Control (0.35%) Garden Tech Devin Insect Killer Concentrate (0.35%)		✓	✓	✓	✓	✓
Neonicotinoids (IRAC 4A)							
acetamiprid	Ortho Flower, Fruit & Vegetable Insect Killer RTU (0.006%) Ortho Flower, Fruit & Vegetable Insect Killer Concentrate (0.5%)	✓			✓	✓	✓
acetamiprid + triconazole	Ortho Rose and Flower Insect & Disease Control (0.25%/0.78%)				✓		
dinotefuran	Ortho Tree and Shrub Insect Control Granules (2%)				✓		
imidacloprid	Bonide Annual Insect Control with Systemaxx Grub Beater (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 2n1 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 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 Tree & Vegetable Systemic Insect Drench (0.235%)		✓		✓	✓	✓
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 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 Monterey B.t. (98.35%)	✓			✓	✓	✓
			✓		✓	✓	✓
			✓		✓	✓	✓
			✓		✓	✓	✓
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 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 + clove oil	Monterey All Natural 3 in 1 Garden Insect Spray (20%/10%)		✓		✓	✓	✓
rosemary + peppermint oil	Essentra All Purpose Insect Concentrate (10%/2%)	✓	✓	✓	✓	✓	✓
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 Insect Killer for Lawns & Gardens (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	Bioadvanced 3-in1 Insect, Disease, & Mite Control Concentrate (0.47%/0.61%)	✓			✓		
iron phosphate + spinosad	Bonide Bug & Slug Killer (0.97%/0.07%)		✓		✓	✓	✓
	Garden's Alive Bull's-EYE Outdoor Granular Ant Bait (0.97%/0.07%)		✓		✓	✓	✓
	Monterey Ant Control (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.