

HOME AND LANDSCAPE INSECT CONTROL

With recent changes due to the elimination of Dursban and diazinon from the list of available homeowner products, insect control recommendations have gotten a little more complicated. Also, there are numerous brands available to homeowners that can be found on the shelves in nurseries, garden centers, grocery stores, farm and livestock supply stores, local elevators and others. It has become increasingly difficult with this diversity of choices to talk “brand names.” Instead, the emphasis is on active ingredient in the product and reading the label for specific use directions, which is necessary for any pesticide user.

Another complicating factor is the marketing program of various manufacturers and the naming of their products. The same concentration of an active ingredient might be used in a line of products, each with a different name which specifies its use. But upon reading each product’s label, the insect pests and use sites are identical thus there is no reason to buy two products when one will be adequate.

The following list was prepared in one state to illustrate the diversity of products that can be found. These products may or may not be available in North Dakota and are presented only as an illustration of this diversity. The list contains 27 manufacturers which have utilized 36 active ingredients (of combinations thereof) to produce 132 products which are marketed as RTU (ready-to-use), hose-end, granular, dust, bait and EC (emulsifiable concentrate) formulations.

acephate

- Ortho Isotox Insect Killer
- Ortho Systemic Insect Killer Concentrate
- Ortho Orthonex Insect and Disease Control Concentrate

azadirachtin

- Natural Guard Multi-Purpose Neem Insecticide

Bacillus thuringiensis

- American Brand Thuricide
- Fertilome Dipel Dust

bifenthrin

- Ortho Home Defense Perimeter and Outdoor Insect Killer RTU
- Ortho Rose and Flower RTU
- Ortho Bug-B-Gon MAX Insect Killer for Lawns Granules
- Scotts Lawn Pro Insect Control and Fertilizer Granules

carbaryl

- Cornbelt Sevin 5% Dust
- Eliminator 7 Dust
- Eliminator Lawn Insect Killer Granules
- Fertilome Carbaryl Garden Spray
- GardenTech Sevin RTU Bug Killer
- GardenTech Sevin Hose-end
- GardenTech Sevin 5 Dust
- GardenTech Sevin Bug Killer Concentrate
- Garden Tech 2% Granules
- Ortho Bug-B-Gon Multipurpose Insect Killer Granules

carbaryl/malathion

- Bonide Fruit Tree Spray

carbaryl/metaldehyde

- Bonide No Escape Snail, Slug and Sowbug Bait

carbaryl/rotenone

- Bonide Tomato/Potato Spray or Dust

cyfluthrin

- Bayer Tempo SC Ultra
- Schultz Insect Killer
- Schultz Lawn and Garden Insect Killer Granules

cyfluthrin/imidacloprid

- Bayer Advance Garden Power Force Multi Insect Killer Hose-end
- Bayer Advance Garden Power Force Multi Insect Killer RTU
- Bayer Advance Garden Power Force Multi Insect Killer Concentrate
- Bayer Advance Rose and Flower Insect Killer RTU

deltamethrin

- Bonide Delta Eight Insect Control

diatomaceous earth

- Concern Diatomaceous Earth Crawling Insect Killer

dicofol

- Hi-Yield Kelthane Concentrate

dimethoate

- Fertilome Ornamental & Evergreen Spray Concentrate
- Hi-Yield Cygon 2E Systemic Ornamental and Vegetable Insecticide Concentrate
- ProTech X-ectue Systemic Insecticide Concentrate

disulfoton

- Bayer Advance Garden 2-in-1 Rose and Flower Care
- Bonide Systemic House Plant Insect Control
- Fertilome Systemic Insecticide Granules
- Fertilome Rose Food Granule
- Hi-Yield Di-Syston Insecticidal Granules

endosulfan

- Fertilome Cutworm & Hornworm Killer Dust
- Hi-Yield Thiodan

esfenvalerate

- KGRO Multi-Purpose Insect Killer Concentrate
- Ortho Bug-B-Gon Garden and Landscape Dust
- Ortho Bug-B-Gon Garden and Landscape RTU
- Ortho Bug-B-Gon MAX Lawn & Garden Insect Killer Hose-end
- Ortho Bug-B-Gon MAX Lawn & Garden Insect Killer Concentrate
- Ortho Bug-B-Gon Multi-Purpose Insect Killer Concentrate
- Ortho Bug-B-Gon Multi-Purpose Insect Killer RTU

imidacloprid

- Bayer Advance Lawn - Season Long Grub Control Hose-end
- Bayer Advance Garden, Tree & Shrub Insect Control Concentrate
- Scotts GrubEX Granules

iron phosphate

- Garden Safe Snail & Slug Bait
- Monterey Sluggo

lambda cyhalothrin

- Spectracide Triazicide hose-end
- Spectracide Triazicide Soil & Turf Insect Killer Concentrate
- Spectracide Triazicide Soil & Turf Insect Killer Granules
- Spectracide Triazicide .04 Granules

malathion

- Fertilome Fruit Tree Spray Concentrate

Fertilome Mal-A-Cide
 Gordons Malathion Concentrate
 Green Thumb Malathion Insect Killer Concentrate
 Hi-Yield Malathion
 Ortho Malathion Plus Insect Spray EC
 Schultz Malathion Concentrate
 malathion/carbaryl
 Bonide Fruit Tree Spray EC
 malathion/methoxychlor
 Fertilome Bagworm and Tent Caterpillar Killer
 Fertilome Triple Action
 metaldehyde
 Hi-Yield Snail and Slug Killer Pellets
 Eliminator Snail & Slug Bait
 KGRO Snail and Slug Killer
 metaldehyde/carbaryl
 Bonide No Escape Snail, Slug and Sowbug Bait
 Fertilome Eliminate Snail, Slug and Bug Bait
 Ortho Bug-Geta Snail and Bug Killer
 methoxychlor/malathion
 Fertilome Bagworm and Tent Caterpillar Killer
 neem
 Fertilome Triple Action Plus
 nicotine
 Bonide Tobacco Dust
Nosema locustae
 Planet Natural Semaspore Grasshopper Bait
 oil (Horticultural)
 Bonide All-Season Spray Oil
 Ortho Volck Oil Spray
 Sunspray Ultra-fine Year-Round Pesticidal Oil
 permethrin
 Bonide Eight Garden Dust
 Bonide Eight Insecticide Concentrate Garden and Lawn
 Bonide Eight Insecticide Concentrate Vegetable, Fruit
 and Flower
 Bonide Borer-Miner Killer
 Bonide Total Pest Control Concentrate (Outdoor
 Formula)
 Cutter Bug-Free Backyard Hose-end
 Do It Best Multi-Purpose Garden Insect Killer
 Concentrate
 Do It Best Multi-Purpose Garden Pest Dust
 Eliminator Ant, Flea, Tick & Mosquito Killer Concentrate
 Eliminator Ant, Flea and Tick Killer Granules
 Green Thumb Multi Purpose Insect Killer Concentrate
 Hi-Yield 38Plus Turf, Tree & Ornamental Insect Control
 Concentrate
 Hi-Yield Garden, Pet and Livestock Insect Control
 Concentrate
 Hi-Yield Garden, Pet and Liverstock Dust
 Hi-Yield Kill-A-Bug II Lawn Granules
 KGRO Insect Killer Granules
 KGRO Multi-Purpose Insect Killer (hose-end, RTU)
 Ortho Basic Solutions Lawn & Garden Insect Killer
 Concentrate (also hose-end)
 Ortho Basic Solutions Lawn & Garden Insect Killer
 Granules
 Ortho Bug-B-Gon Garden and Landscape
 Ortho Bug-B-Gon Multi-Purpose Garden Dust
 Ortho Bug-B-Gon Multi-Purpose Insect Killer hose-end
 Ortho Mosquito-B-Gon Tree, Shrub & Lawn Spray
 hose-end
 Schultz Mosquito Control Hose-end
 Schultz Fungicide Plus Concentrate
 Schultz Triple Action Formula Fungicide
 Terro Outdoor Ant Killer Granules

pyrethrin
 Concern Multi-Purpose Insect Killer
 Fertilome Triple Action Plus RTU
 Green Thumb Rose and Flower Insect Killer RTU
 Green Thumb Tomato and Vegetable Spray RTU
 KGRO Tomato and Vegetable Insect Killer RTU
 Schultz Expert Gardener House Plants and Gardens
 Insect Spray
 Schultz Expert Gardener Insect Spray
 Schultz Fruit & Vegetable Insect Spray RTU
 Schultz Rose and Flower Insect Spray RTU
 rotenone
 Hi-Yield Rotenone Insecticide
 rotenone/carbaryl
 Bonide Tomato/Potato Spray or Dust
 rotenone/pyrethrin
 Bonide Rotenone/Pyrethrum Concentrate
 rotenone/sulfur
 Fertilome Rose, Flower & Vegetable Dust
 soap
 Concern Insect Killing Soap
 Safer House Plant Insect Killing Soap concentrate
 Safer House Plant Insect Killing Soap With Seaweed
 Concentrate
 Safer Insecticide Killing Soap With Seaweed RTU
 Safer Insecticide Killing Soap Concentrate
 Safer Insecticide Multi-Purpose Soap Insect Killer
 Concentrate
 spinosad
 Fertilome Borer, Bagworm, Leafminer and Tent
 Caterpillar Spray Concentrate
 sulfur
 Fertilome Dusting Sulfur

TREES AND SHRUB INSECTICIDE PRODUCTS - QUICK REFERENCE CHARTS

Insecticides for the Management of Insect and Mite Pests of Trees and Shrubs.

The "Alternative" products represent those that would be generally classified as "organic," representing botanicals, microbials and soaps.

| Always Read and Follow the Label! (● indicates listed pest is found on the pesticide label) | aphids | plant bugs | leafhoppers | scale insects | spider mites | gall insects | leaf beetles | caterpillars | sawflies | wood borers |
|--|--------|------------|-------------|---------------|--------------|--------------|--------------|--------------|----------|-------------|
| Synthetic Insecticides | | | | | | | | | | |
| acephate (Orthene® and Isotox®) | ● | ● | ● | ● | ● | | ● | ● | ● | |
| carbaryl (Sevin®) | ● | ● | ● | ● | | ● | ● | ● | ● | |
| cyfluthrin (Bayer Advanced®) | ● | ● | ● | ● | | | ● | ● | ● | |
| dicofol (Kelthane®) | | | | | ● | ● | | | | |
| dimethoate (Cygon®) | ● | | | | | | | | | |
| esfenvalerate (Bug-B-Gone®) | ● | ● | ● | | | | ● | ● | ● | |
| horticultural oils | | | | ● | ● | ● | | | | |
| imidacloprid (Bayer Advanced Garden®) | ● | ● | ● | ● | | | ● | | ● | ● |
| malathion | ● | ● | ● | ● | | ● | ● | | | |
| permethrin (Astro™ and others) | ● | ● | ● | | | | | ● | ● | ● |
| spinosad (Conserve®) | | | | | ● | | ● | ● | | |
| Bacillus thuringiensis | | | | | | | | ● | | |
| insecticidal soaps (M-Pede) | ● | ● | ● | | ● | | | | | |
| Intrepid (IGR) | | | | | | | | ● | | |
| pyrethrins | ● | ● | ● | | | | ● | ● | | |
| neem (Bioneem®) | ● | | | | | | | ● | ● | |
| rotenone | | | | | | | ● | | | |
| Alternative | | | | | | | | | | |
| bifenthrin (Talstar®) | | ● | ● | ● | | ● | | ● | ● | ● |
| cyfluthrin (Tempo®) | ● | ● | ● | | | | ● | ● | ● | |
| deltamethrin (Deltagard® and Suspend®) | ● | ● | ● | ● | ● | | ● | ● | ● | |
| dicrotophos (Inject-A-Cide B®) | ● | | | | | ● | ● | | | ● |
| disulfoton (Di-Syston®) | ● | | ● | | | | ● | ● | | |
| fenpropathrin (Tame®) | ● | | ● | | ● | | | | | |
| fluvalinate (Mavrik®) | ● | | ● | | | ● | | ● | ● | |
| imidacloprid (Merit®) | ● | ● | ● | | | | ● | | ● | ● |
| lambda-cyhalothrin (Scimitar®) | ● | ● | ● | ● | ● | | ● | ● | ● | |
| oxythioquinox (Morestan®) | | | | | ● | ● | | | | |
| pymetrozine (Endeavor®) | ● | | | | | | | | | |

FLOWER GARDEN INSECTICIDE PRODUCTS - QUICK REFERENCE CHARTS

The "Alternative" products represent those that would be generally classified as "organic," representing botanicals, microbials and soaps. Always read and follow the label. Before treating flowering plants, check the label for comments pertaining to plant sensitivity to the chemical.

('●' indicates listed pest is found on the pesticide label)

| | Aphids | Leaf Beetles | Grasshoppers | Rose Curculio | Rose Slug | Spider Mites | Leathoppers | Plant Bugs | Thrips | Scale Insects | Caterpillars | Cutworms | Millipedes | Sowbugs | Slugs & Snails |
|------------------------------------|--------|--------------|--------------|---------------|-----------|--------------|-------------|------------|--------|---------------|--------------|----------|------------|---------|----------------|
| General Use Insecticides | | | | | | | | | | | | | | | |
| acephate (Orthene® and Isotox®) | ● | ● | ● | | ● | ● | ● | ● | ● | ● | | | | | |
| carbaryl | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | |
| chlorpyrifos* | | | | | | | | | | ● | | ● | ● | ● | |
| cyfluthrin (Advanced Garden®) | ● | ● | ● | | ● | | ● | ● | | ● | ● | ● | ● | ● | |
| dicofol (Kelthane®) | | | | | | ● | | | | | | | | | |
| dimethoate | ● | | | | | | | | ● | | | | | | |
| imidacloprid (Advanced Garden®) | ● | | | | | | ● | ● | ● | ● | | | | | |
| malathion | ● | ● | | | | | ● | ● | ● | ● | | | | | |
| mesurol | | | | | | | | | | | | | | | ● |
| metaldehyde | | | | | | | | | | | | | | | ● |
| methoxychlor | ● | ● | | | ● | | | | ● | | | | | | |
| Alternative Products | | | | | | | | | | | | | | | |
| <i>Bacillus thuringiensis</i> (Bt) | | | | | | | | | | | ● | | | | |
| insecticidal soaps | ● | | | | | ● | ● | ● | | | | | | | |
| neem (Bioneem®) | ● | | | | | | | | ● | | ● | | | | |
| pyrethrins | ● | ● | | | | | ● | ● | | | ● | | | | |
| rotenone | | ● | | | | | | | ● | | | | | | |
| Professional Use Only | | | | | | | | | | | | | | | |
| cyfluthrin (Tempo®) | ● | ● | ● | | | | ● | ● | | | ● | ● | ● | ● | |
| disulfoton (Di-Syston®) | ● | ● | | | | | ● | | ● | | | | | | |
| fenpropathrin (Tame®) | ● | | | | | ● | ● | | | | | | | | |
| fluvalinate (Mavrik®) | ● | | | | | | ● | | ● | | ● | | | | |
| imidacloprid (Merit®) | ● | ● | | | | | ● | ● | ● | | | | | | |
| lambda-cyhalothrin (Scimitar®) | ● | ● | | | | ● | ● | | ● | | ● | ● | | ● | |
| oxythioquinox (Morestan®) | | | | | | ● | | | | | | | | | |

INSECTICIDES FOR LAWN PEST CONTROL - QUICK REFERENCE TABLE

| Insecticide | Rate | Remarks |
|--|---|--|
| WHITE GRUBS | | |
| carbaryl (Sevin, several formulations) | Follow label rates for white grubs. | Water into sod after application. |
| imidacloprid (Advanced Lawn ®) | 3 lbs/1,000 sq. ft. | Apply in mid-May. Water after application. |
| isazophos 4E (Triumph) | 1.5 fl. oz./1,000 sq. ft. | Apply in sufficient water to ensure uniform coverage. As soon as application is complete, apply ½ inch of water but stop watering before puddling or runoff occurs. Do not treat golf course fairways. |
| isofenfos 22% EC (Oftanol 2) | 3.0 fl. oz./1,000 sq. ft. or 1 gal./acre | Water lawn thoroughly within 12 hours of the application, using sufficient water to wet the soil to a depth of 1 to 1½ inches. |
| SOD WEBWORM | | |
| bendiocarb 76% EC (Turcam) | ½ to 1 fl. oz./1,000 sq. ft. | Apply when pest is evident. Use adequate quantity of water to thoroughly moisten grass and thatch. |
| carbaryl (several formulations) (Sevin) | Follow label rate for sod webworm. | Insure good penetration of turf. For best results mow lawn and apply after a rain or watering. Repeat at 2 to 3 week intervals if needed. |
| isazophos 4E (Triumph) | 0.75 fl. oz./1,000 sq. ft. | Apply in sufficient water to ensure uniform coverage. As soon as application is complete, apply ½ inch of water but stop watering before puddling or runoff occurs. Do not treat golf course fairways. |
| isofenphos 22% EC (Oftanol 2) | 1.5 to 3 fl. oz./1,000 sq. ft. treatment. | Apply ¼ to ½ inch of water within 12 hours of application. |
| ANTS | | |
| bendiocarb 76% EC (Turcam) | 0.5 to 1.0 oz./1,000 sq. ft. | Apply to hills and surrounding areas. Use adequate quantities of water to thoroughly moisten grass and thatch. |
| carbaryl (several formulations) (Sevin) | Follow label rates for ants. | Same as above. |
| isazophos 4E (Triumph) | 0.75 fl. oz./1,000 sq ft. | Apply in sufficient water to ensure uniform coverage. As soon as application is complete, apply ½ inch of water but stop watering before puddling or runoff occurs. Do not treat golf course fairways. |
| EARTHWORMS | | |
| <p>There are no lawn insecticides that list earthworms on the label of pests controlled. Publications from Ohio State University have listed the toxicity of the common lawn insecticides to earthworms. The only lawn insecticide that is listed as highly toxic to earthworms is carbaryl (Sevin). From this information the following control procedure is suggested:</p> <ol style="list-style-type: none"> 1. In early spring, lightly roll or power rake the lawn to remove old worm castings. 2. Thoroughly water the lawn several hours before the application is to be applied. 3. Apply liquid carbaryl (Sevin) insecticide at the label rate recommended for sod webworms. Evening applications are most effective. Do not water the lawn for several days after application. 4. Repeat if castings continue to appear. | | |