

Pests of the Flower Garden

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This publication is meant to help gardeners select insecticides for use in flower gardens. It lists some of the common pests associated with flowers and some of the active ingredients found in insecticides labeled for use on ornamental plants. The list contains common active ingredients for each pest from the Kansas pesticide database. Other effective materials may also be available. Gardeners should check labels carefully and visit local retail outlets to determine which products are best suited for a particular pest problem.

Gardeners will need to find new ways to deal with many garden insects because products containing dursban and diazinon are no longer available. Many new products are sold for use in home gardens, but it is more difficult to know what they actually contain because they are often sold under trade names rather than active ingredi-

ent names. One of the more popular groups of insecticides labeled for home use are the pyrethroids, which come in a variety of names such as bifenthrin, cyfluthrin, permethrin and esfenvalerate. Many of these compounds end in “-thrin,” but not all. Many have a broad spectrum, but the lists of pests controlled by each pyrethroid varies.

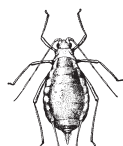
Remember that to be a pest, insects have to be present in substantial numbers. Spotting one or two insects in a garden should not trigger an insecticide application. Many insects can be beneficial by feeding on other insects or helping pollinate plants. Gardeners need to learn which insects can cause damage and know what level of activity is acceptable and what may call for intervention to reduce plant stress or death. In some cases, excess use of insecticides can increase insect damage by destroying the natural balance of

prey, predators and parasites. It is important to select and use insecticides carefully.

When selecting insecticides, buy in quantities that can be used in a reasonable amount of time. Look for products that can be used for more than one pest. For example, if a gardener has problems with aphids and mealybugs, it might be best to buy a product that controls both rather than buying separate products for each pest. Remember that if it is necessary to treat pests several times during the season, using different insecticides will reduce the chance of selecting for resistance. For help in selecting the correct insecticide for each flower and pest in a garden, check with the local K-State Research and Extension office, garden centers and gardening groups. Products vary from store to store, so check at various retail outlets to find the best product for a particular pest problem.



Ants: Social insects that live in colonies. They are usually not a problem except when they cause unsightly mounds or loosen soil around small seedlings. They are sometimes attracted to sap exuded by plants or “honeydew” secreted by aphids. **Control:** Products containing active ingredients, such as, acephate, allethrin, bifenthrin, bioallethrin, carbaryl, cyfluthrin, deltamethrin, esfenvalerate, imidacloprid, malathion, permethrin, phenothrin, pyrethrins, resmethrin and tetramethrin are labeled for treating ants.



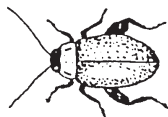
Aphids: Small, soft-bodied insects that suck plant juices, cause chlorosis, distort or stunt plant growth, secrete “honeydew” and transmit diseases. **Control:** Insecticides labeled for aphid control on ornamentals contain the active ingredients acephate, allethrin, azadirachtin, bifenthrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, esfenvalerate, imidacloprid, insecticidal soaps, malathion, methoprene, neem oil, permethrin, phenothrin, pyrethrins, resmethrin, rotenone and tetramethrin.



Blister Beetles: Large, elongated beetles about $\frac{3}{4}$ -inch long with prominent head and neck, long legs and soft, leathery wing covers that strip foliage from plants. Avoid contact with skin because the beetles’ body fluids can cause blisters. **Control:** Products containing carbaryl, cyfluthrin, deltamethrin, malathion and pyrethrins are labeled for treating blister beetles.



Cutworms: Cut off plants at night and spend the day curled up in the soil or under leaf litter. **Control:** Protect transplants with paper or metal collars around the stems. Spray plants and soil with products containing acephate, allethrin, bacillus thuringiensis, bifenthrin, carbaryl, cyfluthrin, deltamethrin, esfenvalerate, imidacloprid, malathion, permethrin, pyrethrins, resmethrin, spinosad and tetramethrin.



Flea Beetles: Small beetles with enlarged hind legs that jump when disturbed. They chew on leaf tissue and can cause serious injury on seedling plants. **Control:** Insecticides labeled for flea beetles include acephate, bifenthrin, carbaryl, cyfluthrin, deltamethrin, esfenvalerate, permethrin, pyrethrins or tetramethrin.



Grasshoppers: General feeders that feed on many kinds of plants. **Control:** Keep weeds and grass near gardens under control because these are the breeding sites for grasshoppers. Search for products containing active ingredients, such as, acephate, allethrin, azadirachtin, bifenthrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, esfenvalerate, imidacloprid, malathion, methomyl, neem oil, permethrin and pyrethrins. Try to spray when small nymphs are present.



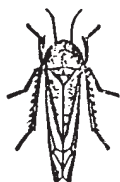
Iris Borers: Large, whitish worms that feed in the rhizomes. **Control:** Reduce infestations by transplanting rhizomes every three to four years and discarding borer-infested ones. Clean up last year's plant debris by early April to destroy overwintering eggs. Apply dimethoate every one to two weeks from when new growth is 5 to 6 inches tall until early June.



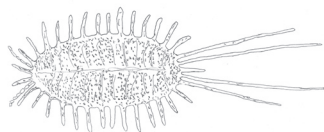
Leaf Beetles: Small- to medium-sized, active insects that chew holes in leaves or flowers. **Control:** If leaf damage becomes severe spray with products that contain acephate, azadirachtin, bifenthrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, imidacloprid, neem oil, permethrin, pyrethrins or tetramethrin.



Leaf-Feeding Caterpillars: Many kinds eat foliage, bore into flower buds or roll leaves. **Control:** Treat with products containing acephate, allethrin, azadirachtin, bifenthrin, carbaryl, cyfluthrin, insecticidal soaps, malathion, permethrin, phenothrin, pyrethrins, spinosad or tetramethrin.



Leafhoppers: Wedge-shaped insects that move sideways or jump when disturbed. They suck plant juices and cause foliage to become stippled, spotted or yellowed. **Control:** Treat with products containing acephate, allethrin, azadirachtin, bifenthrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, esfenvalerate, imidacloprid, insecticidal soaps, neem oil, permethrin, phenothrin, pyrethrins, resmethrin, rotenone and tetramethrin.



Mealybugs: Gray to whitish masses of slow-moving, soft-bodied insects found on stems, leaf axils and undersides of leaves. **Control:** Try washing mealybugs off plants with a stream of water. Insecticides labeled for treating mealybugs include acephate, acetamiprid, allethrin, azadirachtin, bifenthrin, bioallethrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, imidacloprid, insecticidal soaps, malathion, neem oil, permethrin, phenothrin, pyrethrins, resmethrin, rotenone and tetramethrin.



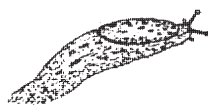
Pillbugs or Sowbugs: Feed on decaying organic matter and young, tender plant parts. **Control:** Remove boards and excess mulch. Products labeled for these pests often contain allethrin, bifenthrin, bioallethrin, carbaryl, cyfluthrin, deltamethrin, esfenvalerate, imidacloprid, malathion, metaldehyde, methoprene, permethrin, phenothrin, pyrethrins, resmethrin or tetramethrin.



Plant Bugs: Active insects that suck plant juices and cause foliage to become stippled, spotted or yellowed and may deform or destroy flower buds. **Control:** Apply treatments containing active ingredients, such as, acephate, allethrin, bifenthrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, esfenvalerate, imidacloprid, insecticidal soaps, permethrin, pyrethrins or resmethrin.



Rose Slugs: Small “slugs” (sawfly larvae) that feed on the undersides of rose leaves and leave them brown and bare. **Control:** Registered products include carbaryl, cyfluthrin, deltamethrin, imidacloprid, insecticidal soaps and pyrethrins.



Slugs: Large, soft-bodied creatures that leave a slimy trail. **Control:** Try to remove as many hiding places as possible, such as old boards, rocks and mulch. Trap slugs by placing beer in small containers that will trap and drown the slugs. Products labeled for use against slugs include allethrin, carbaryl, deltamethrin, metaldehyde and resmethrin.



Spider Mites: Tiny, eight-legged organisms that cause foliage to turn brown or gray and die. Mites may leave a fine webbing on foliage and are associated with hot, dry weather. **Control:** Mites can be very difficult to control. When possible avoid unnecessary use of broad-spectrum pesticides such as carbaryl (Sevin) and various pyrethroids that may destroy beneficial insects and increase mite problems. Products containing abamectin, acephate, bifenthrin, dimethoate, insecticidal soaps and neem oil can be used to reduce mite numbers.



Thrips: Tiny, active insects that cause foliage to become spotted and deform flowers. A serious pest of gladiolus. **Control:** Spray with products containing abamectin, acephate, allethrin, azadirachtin, bifenthrin, bioallethrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, imidacloprid, insecticidal soaps, malathion, methoprene, neem oil, permethrin, pyrethrins, resmethrin, rotenone, spinosad and tetramethrin.



Whiteflies: Tiny, four-winged, snow-white “flies” on the under sides of leaves. Immatures are small, oval, flat, pale green, motionless insects. **Control:** Try to avoid problems by watching for infestations when buying bedding plants, because whiteflies do not overwinter outside in Kansas. Yellow, sticky traps can reduce or detect populations. Treat with products containing active ingredients, such as, abamectin, acephate, allethrin, azadirachtin, bifenthrin, bioallethrin, carbaryl, cyfluthrin, deltamethrin, dimethoate, esfenvalerate, imidacloprid, insecticidal soaps, malathion, methoprene, neem oil, permethrin, pyrethrins, resmethrin, rotenone and tetramethrin.

Caution: Regardless of the chemical(s), read and follow the manufacturer’s instructions. Use products labeled specifically for flowers. To avoid plant injury, check pesticide labels for references about flowers that can be treated. Avoid treating plants with insecticides when they are blooming to protect honeybees and other pollinators. Note: Chemicals used on flowers may not be safe for controlling the same pests on vegetables.

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